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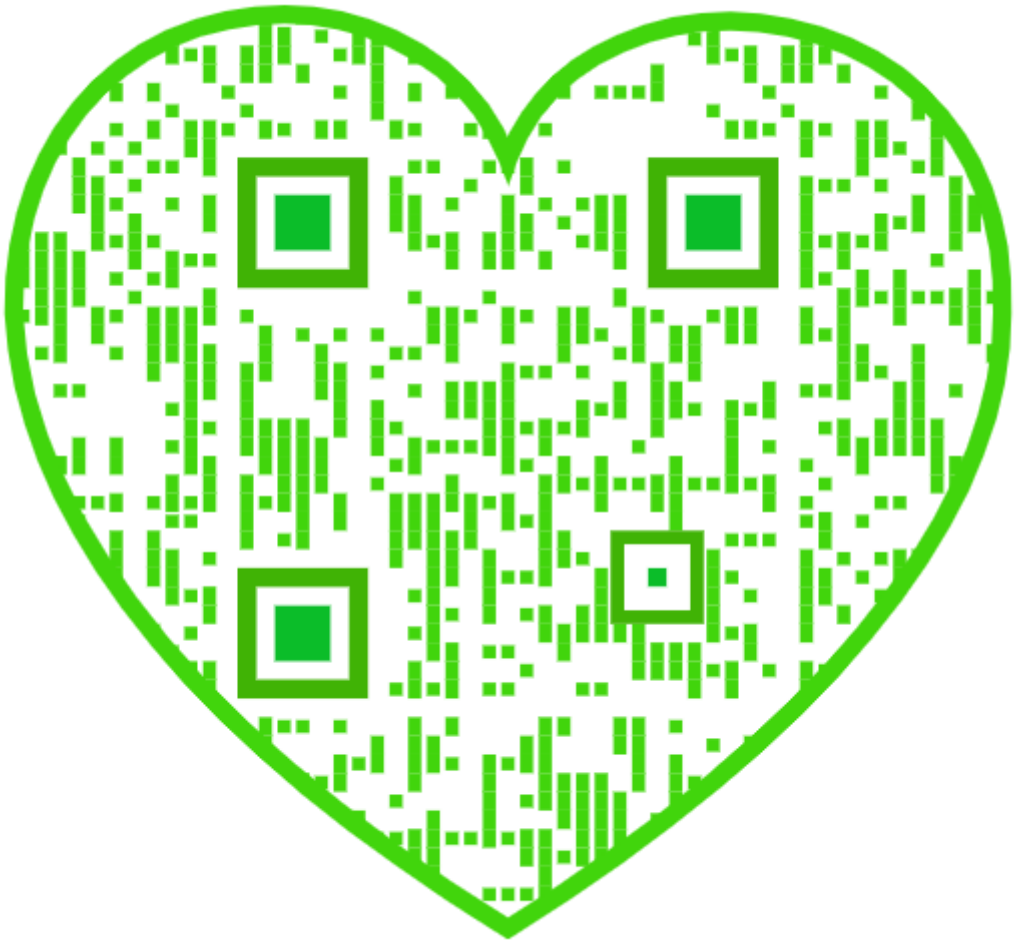

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A PRIMER

OF

PEDAGOGY

BY

DANIEL PUTNAM,

TEACHER OF PEDAGOGY

IN THE

MICHIGAN STATE NORMAL SCHOOL.

Third Edition—15th to 19th Thousand. Revised and Enlarged.

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PREFATORY NOTE TO THIRD EDITION.

The favor with which this little volume has been received, and the conviction that it has been of great service to teachers of elementary schools, induce the publisher to issue a new edition. The body of the work remains essentially unchanged; but a chapter has been added upon the *Study of Children*. This chapter presents only such matter as will be of real and practical value to ordinary teachers. This addition brings the book up to date.

A PRIMER OF PEDAGOGY.

CHAPTER I.

THE TEACHER'S WORK.

Three questions.—Three questions naturally present themselves to a person who proposes to prepare himself to do any work:

(1.) Just what is the work which I am preparing to do?

(2.) By what means and methods, and in what manner, can this work be done most easily and thoroughly?

(3.) How can I prepare myself most readily and completely to do this work?

Should be answered.—Every candidate for a teacher's position should put these questions to himself, and should not be satisfied until he can answer them with a good degree of clearness and definiteness.

Probable answer.—Very likely the answer to the first question, in most cases, will be, the work is teaching, and I propose to prepare myself to teach.

While this reply might be accepted with sufficient explanation and qualification, it involves the not unusual error of putting the means in place of the end. *Teaching is not an end in itself: it is only and merely a means to an end.* We do not teach for the sake of the teaching any more than we construct a machine simply for the sake of the machine, or make a road just for the sake of having the road. We value the machine,

not for itself, however beautiful it may be, but for what we can accomplish by using it; we value the road because it affords a convenient way of going somewhere. So we value teaching on account of the purpose which can be accomplished by it. That purpose or end is the education of the child.

The real work of the teacher.—The real work to be done, the real work of the teacher, is *the right education of his pupils.*

He teaches in order to attain this end. If the teaching secures this, it is good; if it fails to accomplish this, it is worthless, or of very little value.

What is right education?—If it be agreed that the teacher's work is the right education of the child, the question presents itself, what is right education? Without attempting to give a complete and formal definition we may safely assume that the proper education of a child must include:—

(1.) The *complete development of the child;* that is, the bringing out into the highest state of possible perfection all his powers of body and soul, making of him the most and best of which his nature is susceptible.

(2.) The *thorough training of the child.* Training is forming, fashioning, and molding by continual practice, causing acts and processes to be repeated until they can be performed with great accuracy and rapidity and with little conscious effort.

(3.) The *proper instructing of the child;* that is, the helping of the child, so far as aid is needed, to obtain that knowledge which will be of the highest value to him as an individual and also as a member of the community and a citizen of the state.

What is produced?—These are the three co-ordinate elements or factors in a complete and symmetrical education: *Development produces power, strength, energy; training results in skill, dexterity, facility, habit; instruction gives intelligence, comprehension, mastery of facts and principles, and should tend to the production of virtue and righteousness of character and conduct.* Intelligence guides power in the right direction, and makes profitable use of skill and dexterity.

All accomplished at the same time.—These three objects are accomplished at the same time and by the same processes if right methods are wisely employed by the teacher. Instruction must precede and accompany training and furnish the material upon which the activity involved in training is exercised. The exercise which training requires produces development.

Some definitions of education.—These statements of what education should do for the child are essentially the same as those made by many eminent writers.

Tate.—Tate says: "Elementary education has two ends. 1. To develop the intellectual and moral faculties; or, in other words, to develop the faculties of the perfect man. 2. To communicate to the pupil that sort of knowledge which is most likely to be useful to him in the sphere of life which Providence has assigned him."

Milton.—Milton, in his tractate on education, writes: "I call a complete and generous education that which fits a man to perform justly, skillfully, and magnanimously, all the offices both private and public of peace and war." In this definition Milton has in view the purpose or end to be secured by education rather than education itself.

Addison.—Addison, in his beautiful style, says: "I consider a human soul without education like marble in the quarry, which shows none of its inherent beauties until the skill of the polisher fetches out the colors, makes the surface shine, and discovers every ornamental cloud, spot, and vein that runs through the body of it.

"Education, after the same manner, when it works upon a noble mind, draws out to view every latent virtue and perfection which, without such helps, are never able to make their appearance."

Plato.—Plato, in his Laws, seems to have anticipated the modern doctrine of "learning to do by doing," and even something of the kindergarten, when he writes: "According to my view, he who would be good at anything must practice that thing from his youth upwards, both in sport and in earnest, in the particular manner which the work requires. For example, he who is to be a good builder, should play at building children's houses; and he who is to be a good husbandman, at tilling the ground. Those who have charge of the education of children should provide them when young with mimic tools, and they should learn beforehand the knowledge which they will afterwards require for their art. For example, the future carpenter should learn to measure or apply the line in play; and the future warrior should learn riding, or some other exercise for amusement; and the teacher should endeavor to direct the children's inclinations and pleasures, by the help of amusements, to their final aim in life. The soul of the child, in his play, should be trained to that sort of excellence in which, when he grows to manhood, he will have to be perfected."

In speaking of the value of education to the state he says: "If you ask what is the good of education in general, the answer is easy—that education makes good men, and good men act nobly because they are good."

Divisions of education.—If the subject were to be fully considered it would be convenient to make several divisions and treat each of these separately. It will only be possible here to indicate these divisions.

1. *Physical* education, which treats of the proper development and training of the body, and of the conditions necessary for securing and maintaining strength, vigor and health in the physical organism.

2. *Intellectual* education, which treats of the development and training of the intellectual powers, and of the whole matter of instruction, study, and teaching.

3. *Moral* education, which considers man as a being capable of knowing right from wrong, and free to choose between these, and consequently responsible for his conduct. This division treats of the principles which should govern men in all the relations of life, and seeks to show how children may be taught and trained to habits of truthfulness, honesty, integrity, and virtue in the highest sense of the word.

4. *Industrial* education, which includes "manual training," and considers how pupils may be prepared to use to the best advantage their powers of body as well as of mind, and may be fitted, when leaving school, to enter immediately into some business or employment of some kind by which they can gain a livelihood and be useful to the state.

It will not be practicable to discuss these divisions separately, at any length, in this work. It will be understood that the

complete education of a child includes, as far as possible, all these varieties of education.

SUMMARY OF CHAPTER I.

1. Three questions presented to one preparing for any work.
2. Probable answer to the first question by one preparing to teach.
3. Why this answer is not satisfactory.
4. Illustrations of the purpose of teaching.
5. Real work of the teacher.
6. The three objects which education should include.
7. The results of development, of training, of instruction.
8. Relation of these processes to each other.
9. Definitions of education quoted. Tate, Milton, Addison, Plato.
10. Divisions of the subject of education and purpose of each.

CHAPTER II.

THE CHILD.

Knowledge needed to answer the second question.—The question, What is the teacher's work? was answered in the first chapter. The second question, By what means and methods, and in what manner, can this work be done most easily and thoroughly? cannot be answered so readily and briefly.

The being to be educated is the child. Before we can tell how to educate him we must know what sort of a being he is. What is there in him to be developed and trained? The germs of what powers and capacities does he possess? What kind of

instruction does he need? and under what conditions and circumstances can this instruction be given to the best advantage?

Illustration.—The man who should offer to take charge of a valuable young horse, and to train him for use or for the market, would be asked by the owner of the animal what he knew about horses, and about the best methods of training them; whether he knew what kind of food horses needed, and how much, and in what form and at what times it should be given. Whether he had carefully studied the nature and disposition of horses, and understood how to handle them; how to train them so as to bring out their very best characteristics and qualities, and to correct any bad or vicious traits which might appear in the progress of their education. Such questions would be reasonable, and it would be necessary for this candidate for the position of trainer to make clear and definite replies. It would hardly be satisfactory for him to say that he had seen a great many horses, and could readily distinguish them from mules by sight, even at considerable distance.

Proper to ask of the teacher.—*Is it not proper to ask as much of the teacher of children as of the trainer of horses?* and to expect as definite answers of the teacher as of the trainer? What, then, is a child?

What the child is.—The child is a complex being, curiously and wonderfully made, *composed of matter, the body, and of spirit, the mind or soul.* The limits of a short chapter will not allow a complete analysis and study of his nature. It is assumed that the reader has some knowledge of the human body, derived from observation and from instruction in the elements of physiology. We shall here notice only some parts

of the nervous system, which must be clearly understood in order to understand certain activities of the mind.

Nervous system.—The brain is the great center of the nervous system. From the brain and the spinal cord small threads or cords called nerves extend to all parts of the body. Each nerve is composed of a considerable number of very minute fibers very closely united. The peculiar property or characteristic of the nerves is *the susceptibility of being impressed, excited, or irritated, and the power of transmitting or conveying, in some way, these impressions, excitements or irritations.*

Some of the nerves or nerve fibers transmit impressions made upon them by external things inward to the brain. These are called afferent or sensory nerves. Other nerves convey impulses or impressions from the brain outward to the various parts of the body. These are named efferent or motor nerves. For example, I will to take a book from the table; the nerves running to my hand and fingers convey the order or impulse made upon them by the act of my will; the muscles of the arm, hand and fingers move in the right direction and order and the book is grasped.

PROCESSES AND ACTIVITIES OF KNOWING.

The senses.—We are said to have five senses. This means that there are five peculiar and special nerves, called nerves of sense, through which we get the beginnings of all our knowledge. These are the nerves of touch, taste, smell, hearing and sight. They are sometimes called the "gate-ways of the soul," because only through these can the soul become acquainted with the external world.

Each of these nerves, except the nerves of touch, receives but one kind of impression and gives to the mind but one kind of knowledge. By a most beneficient provision, however, if one nerve of sense is lost or destroyed, the others can, to a considerable extent, supply its place. It is also true that, by a process of education, one sense learns to do work which originally belonged to another sense. For example, we judge by sight whether a surface is rough or smooth, although, in the first instance, we must have learned to distinguish the rough from the smooth by touch. Other illustrations will readily occur to any one who thinks.

Knowledge derived through the different senses.—By the sense of touch in connection with muscular movement and resistance, we obtain our first notions of form, distance, direction, weight, hardness, softness, roughness, smoothness, and of many other characteristics of objects. Taste makes us acquainted only with flavors. Smell gives information concerning odors alone; hearing is the only gate-way through which sounds reach the soul. Sight primarily gives knowledge of colors and forms; but very early the child begins to learn, through this sense, of size, direction, distance, character of surfaces, and of many other things. Education deals very largely with the sense of sight. The eye and the hand are of priceless value in the schoolroom, as they are in the greater world of human affairs generally.

The senses, instruments of the mind.—*The senses are the instruments or organs of the mind.* Through them the mind feels, tastes, smells, hears, and sees. In the process of education they are to be trained, by proper exercise, to become more perfect and more reliable instruments. It is a part of the teacher's work to provide for such training.

The mind. Consciousness.—*The mind or soul is that within us which knows, feels, and wills.* Of its substance we have no knowledge. We know that we feel, taste, smell, hear, and see; that we think, remember, imagine and reason. *This kind of knowing we call consciousness,* which may be defined as *the mind knowing itself and knowing its own states and activities.*

Relation of consciousness to the senses. Sensation.—The relation of consciousness and the senses is easily illustrated: I rub the tips of my fingers over the rough surface of an unpolished piece of stone and then over the surface of a piece of highly polished marble. An impression is made in each case upon the minute fibers of the nerves. They are irritated, or excited, and this excitement is conveyed along the nerves to the brain. In some way, but how no one has yet been able to explain, an impression is made upon the mind. A state of mind is produced which is called a sensation. We say, therefore, *sensation is a state of mind produced by an impression upon some sensory nerve.*

Beginnings of education.—The mind is immediately aware of the sensation through consciousness. In the case just supposed of rubbing the pieces of stone, the mind recognizes the two sensations, compares them, pronounces them unlike, and declares one piece to be rough, the other smooth. *All the knowledge of the child begins with sensations.* The process of education commences just at this point, and commences with the knowing of sensations, comparing them, finding their resemblances and differences, and making conclusions and decisions concerning them.

Knowledge of external things.—As soon as the mind becomes conscious of sensations it begins spontaneously to

attribute them to external objects or influences as causes. If through the sense of smell it has a sensation of some odor, it believes the odor comes from some object outside of itself. This attributing sensations to their causes brings the mind into acquaintance with the external world, and produces what is called perception.

Perception.—*Perception, as an act, is the mind knowing things outside of itself*, the world about us. *As a power, perception is the ability of the mind to know the external world.* In the act of perceiving we form in the mind an image, idea, or notion of the thing perceived. *This product of the act of perceiving is called a percept.* If I look upon a tree and then close my eyes and turn away I can form a picture or representation of the tree in my mind. This picture is the percept reproduced. If I hear a musical tone I can afterwards form an idea or notion of the tone, but not an image or picture. The same is true of a taste or an odor. These ideas or notions are also called percepts.

Space and time.—The mind is so made that as soon as a child begins to know objects he cannot help thinking or knowing that they are somewhere. That somewhere he learns to call space. He cannot think of himself without at the same time thinking that he is in space. He thinks of all things as in space, though he cannot tell what space is.

As soon as he commences to notice that events happen one after another, that he sees one thing and then another, that he thinks one thought and then another, he has immediately an idea of what we call time, though he is unable to describe it.

Intuition.—*That power of mind which causes the child to have such ideas as those of space and time is called intuition.* The

same power recognizes instantly the truth of what we call axioms. They are said to be self-evident truths. We mean by this that the mind is so constituted that it cannot help accepting them as true as soon as it knows them. It does not go through any process of reasoning to reach this conclusion. Such truths as these make a starting point in all processes of reasoning. No sane mind ever doubts or denies them.

The perceptive powers.—These three activities of mind, consciousness, perception and intuition, give us the beginnings, what we may call the raw material, of all our knowledge. *Taken together they form a class or group of mental activities and are named the perceptive powers.* Consciousness, as before stated, is the mind knowing or perceiving itself, and what it does, and how it feels, and what it chooses and determines. Perception, as an act, is the mind perceiving or knowing external things through the senses. Intuition is the mind perceiving or knowing simple ideas, such as the idea of time, of space, of beauty, or of right, and of self-evident truths: Such as that the whole is equal to the sum of all its parts, or that an object can be in only one place at any one time.

CONCEPTIVE OR REPRESENTATIVE ACTIVITIES.

Power and process of representation.—As already stated, I can shut my eyes and yet see, in my mind, a tree, or a house, or any other object of sight. There appears to be "in the mind's eye," a picture or an image of the object. *This picture or image is said to represent the object.*

I can think of some sound which I have heard at some past time so as to have a pretty clear and distinct idea of the sound. Any person who sings must be able to do this, otherwise he

could not reproduce to-day the notes of a tune learned yesterday or last year.

In the same way one can form a notion of a taste or a smell which has been experienced at some time. If this were not so the mouth would not "water" when we think of some very delicious article of food.

Representation from descriptions.—I can also represent or picture mentally any object or place when it is described to me, although I have never myself seen the object or place. This process of representation always goes on in the mind when one is reading, if the language of the book or paper is understood. A book is of no use to a child until he has become able to form those mental images and ideas.

Representation in school.—In the schoolroom the pupil, who is told to place an example in arithmetic upon the blackboard without using his book, must first form a picture or idea of the example in his mind before he can produce it on the board. The same would be true of a sentence to be written, of a map to be drawn, or of a geometrical figure to be reproduced.

Concepts.—*All these mental images, pictures, ideas or notions are called simple concepts.* They differ from percepts in this respect: Percepts are the mental pictures and ideas or notions of objects formed when the objects are present to the senses; concepts are the mental pictures and notions formed when the objects are not present.

Real representation.—In all the examples thus far mentioned the mind represents things just as they are or just as they are supposed to be. *This process is called real represen-*

tation, and the mental activity which does such work is called simple conception or the power of real representation. It is also sometimes named reproductive imagination.

Ideal representation, imagination.—But there is another and a different kind of representation, which is more properly the work of imagination. Mental images and pictures may be combined and arranged into new forms, unlike any which have ever been seen, or which actually exist. In this way the painter produces an ideal landscape, putting into a single picture the representation of objects from many different localities, a mountain from one place, a valley from another, a grove from still another, and so on until he has filled his canvas. In like manner the story writer fills his book with incidents, skillfully woven together, which originally had no relation to each other. *Such representations are called ideal, and the mental power which creates them is imagination proper.*

Other work of imagination.—The imagination also changes things by representing them as larger or smaller than they really are, thus making giants and pygmies out of ordinary men. It also transforms one thing into another, and represents persons and things by objects which have no resemblance to them. The boy's stick becomes a horse; the girl's toy table is surrounded by an imaginary company of her playmates.

In school.—In the schoolroom imagination is of great service. By its help the pupil sees rivers, lakes, mountains, hills, villages, cities, railroads, and hundreds of other objects in the map hanging on the wall before him, where, in reality, he can see only lines and marks of various kinds.

Memory.—*Memory is the power of mind which retains, reproduces and reknows knowledge.* How it retains we do not

know. It acts constantly in connection with simple conception and imagination. In many cases their work could not be done without the aid of memory.

How memory recalls.—The memory can recall and reproduce a few things instantly. A person gives his name, repeats the alphabet, answers questions on the multiplication table without stopping to think. But in most cases it takes a little time to bring back what is asked for. It is not able to get the thing wanted by a single effort. It starts with one thing, that leads on to another, the second leads to a third, the third to a fourth, and so on until the desired object is reached and reproduced. All these various things are said to be associated or fastened together in the mind, so that any one of them will aid the memory in finding the others. There is always a relation of some sort between objects and ideas thus associated. *The relations which cause knowledge to be associated in this way are called laws of association.*

Laws of association.—The most important of these laws are, (1) the law of *similarity*, (2) the law of *contrast*, and (3) the law of *contiguity*. That is, things and thoughts are associated in the mind because they are alike, or because they are the opposites of one another, or because they belong in the same time, or at the same place, or are in some way closely related. *These laws are called primary and objective.*

Conditions of mind and body.—In addition to these laws there are certain conditions and states both of mind and body which help the power of memory very much. For this reason such conditions are sometimes called *secondary and subjective laws of association.*

The most essential of these are (1) *attention*, (2) *repetition*,

(3) *proper feeling*, (4) *lapse of time*, (5) *condition of mind*, (6) *condition of body, and* (7) *employments.* Those things are usually easily remembered to which we give close attention when learning them. Some things are fixed in the memory simply by many repetitions; others by some vivid feeling associated with them. Things can be easily recalled which were learned yesterday; those learned a long time ago are recalled less readily. If the mind is preoccupied, or the body is full of pain, it is difficult to commit a lesson to memory.

Finally, men readily recall things connected with their daily business.

The representative or conceptive powers.—*Simple conception, imagination and memory are grouped together and called the conceptive or representative powers* of the mind.

THINKING ACTIVITIES.

Thinking processes.—Having got the matter of knowledge by the perceptive powers we hold it and reproduce it by the representative powers, and then go on to examine, arrange, and classify it so that we can use it for practical purposes, or as means by which to obtain additional knowledge. *These processes of examining, sorting over, and arranging we call thinking.*

Analysis, abstractions, generalization.—Things which are to be brought together into the same class must possess certain common characteristics. These characteristics form the basis of the classification. In order to find such characteristics, objects must be carefully and thoroughly examined. This examination is called *analysis.* Then these common characteristics must be picked out from the others and united into a

complex notion or concept. The process is termed *abstraction.* Finally, all the objects which have these qualities are grouped under some common name. This last act is called *generalization.*

General conception, general concepts.—The mental activity, by which these three complex processes of analysis, abstraction, and generalization are performed, is named *general conception;* and the mental product is called a *general concept.* This is the simplest thinking operation of the mind. In this way we form the ideas or notions expressed by common nouns, such as flowers, roses, apples, horses, houses, books and so on.

The judgment, a judgment.—We are constantly comparing objects and pronouncing them alike or unlike. The young child begins by comparing sensations, and next percepts, or objects about him. He compares persons, animals, flowers, fruits, and learns to discriminate or distinguish one from another. *The mental power which thus compares and decides concerning things is called the judgment,* and the mental product is named *a judgment.* When a judgment is expressed in words, either spoken or written, it is termed a *proposition* or a sentence. Stones are hard; sugar is sweet; the horse is worth a hundred dollars. These are all judgments expressed in propositions.

Form of thinking.—This forming of judgments is another of the thinking processes; most, if not all, our thinking takes this form, as one can determine by analyzing his own mental activities. As soon as the child has learned language he thinks in words.

Reasoning.—One other mode of thinking is called *reasoning.*

In this judgments are compared. We assume certain things to be true, and then say, if these are true a certain other thing must be true, also. For example: Liars are bad men; this man is a liar; therefore, this man is bad.

The knowing powers.—*General conception, judgment, and reasoning form the group of thinking powers.* The three groups together constitute *the knowing powers of the mind or the intellect.*

Synopsis of the Knowing Powers.

1. Perceptive Powers
   1. Conciousness.
   2. Sense Perception.
   3. Intuition.
2. Conceptive or Representative Powers
   1. Simple Conception.
   2. Imagination.
   3. Memory.
3. Thinking Powers
   1. General Conception.
   2. Judgment.
   3. Reasoning.

THE FEELINGS.

Bodily feelings.—The body of the child is susceptible of excitations and irritations called feelings. Some of these are pleasant and agreeable; others are painful and disagreeable. When the body of the child is in good condition the processes of digestion, assimilation, and respiration are attended with pleasurable feelings. When the body is in bad condition some of these processes are painful. *The mental activities of the child are much influenced by these bodily feelings,* and in consequence of them he is good-natured or ill-natured.

The best known of the physical feelings are *the appetites.* Some of these are *natural,* such as the appetite for food and drink; some are *artificial,* being created by habits, such as the appetite for tobacco, for opium, and for intoxicating liquors.

Mental feelings.—The mind, also, is susceptible of excited states called feelings. These are very numerous, but as they are well known through consciousness it will be sufficient to mention a few of the most important.

Classes of feelings—emotions.—There are (1) *the emotions*, such as the feelings of pleasure, pain, joy, sadness, satisfaction, dissatisfaction; the higher feelings caused by wit, humor, beauty, sublimity, and many others. These excitements of mind seem to rise and die away without going out toward persons or objects.

Affections.—There are (2) *the affections*, that is, feelings of good-will or ill-will which seem to be directed towards persons or things outside of ourselves. Among these are the love of parents for children, of children for parents, of members of a family for one another, of friends for friends, the love of one's country and countrymen. Among the bad affections of which the soul is susceptible, are envy, jealousy, anger, malice, hatred and revenge.

Desires.—There are (3) also *the desires*, which may be called cravings or longings of the mind for things which are supposed to be capable of giving pleasure, satisfaction, enjoyment, or advantage of some sort. The desire is named from the object desired, as the desire for knowledge, for wealth, honor, esteem, power.

Complex feelings —Some feelings are very complex. Among these are hope, which is made up of desire and expectation; fear, dread, and many others.

Important for the teacher.—It is of the highest importance to the teacher to understand the nature of the feelings, and how they are aroused and allayed, because they are the springs

of action in the mind of the child. They influence, if they do not entirely control, his conduct. He seeks after and strives for what he desires. He is induced to act by exciting the proper desire.

THE WILL.

Analysis of an act of the will.—*The will consists of the mental activities exercised in choosing and determining*, or it may be called the executive power of the soul; it is that exercise of mind which precedes every voluntary act. The series of mental processes which result in an act of willing seem to take place in this order: *An alternative* of some sort is presented; something may be done or left undone; one of several objects may be had; of two courses of conduct one is to be selected; we may go, or remain where we are.

Order of the mental processes.—When an alternative is thus presented the mind must have time for *examination and deliberation.* Reasons for and against are considered, arguments are weighed, advantages and disadvantages are set over against each other. After such deliberation a *choice* is made; one thing or object is preferred to another. Then the final act of *volition* or determination is made, and the process of willing is completed. In all cases a feeling of desire immediately precedes the volition, and appears to be almost a part of that act. It will be seen that the mind always follows this order: (1) it knows, (2) feels, (3) wills or determines.

Dealing with the child.—*In dealing with the child, therefore, the teacher must follow this same order.* Give the knowledge or information which will excite desire. In this way only can the will be reached and moved. Those considerations or objects which excite desire are usually termed motives.

Strictly speaking, desire is the motive, but it is convenient and according to usage to apply the name both to the desire and to that which excites the desire. The exciting cause may be a real external object, an object of perception, or it may be only an object of thought, a product of the representative power.

Examples.—For example, something which he values is promised to a child to induce him to study a lesson or to behave well. The desire to possess the object moves his will, and he determines to study, or to conduct himself properly. Instead of such an object being presented, the child may be told of the pleasure which his diligence in study, his progress in learning, or his good conduct will give to his mother and father. In this case the desire of giving such pleasure produces the needed action of the will. When something is done by a child through fear of punishment, the desire to avoid pain or disgrace is the impelling force. In these cases it is an object of thought which excites the feeling.

THE MORAL NATURE.

A moral being.—A moral being is a being capable of knowing right from wrong, and free to choose between them, and to do whichever he pleases. Only such a being can be blamed or justly punished for his conduct. Man is such a being.

The moral nature.—The moral nature of the child consists of those powers of his mind which enable him to know the right, to understand the reasons why he should choose and do the right, and which urge and impel him to thus choose and do, giving him a feeling of pleasure and enjoyment when he does the right, and a feeling of pain and dissatisfaction when

he does the wrong. With a single exception these powers are the same as those already studied. Their activity is simply turned in a different direction, and exercised upon different subjects, or different material. They are called moral powers, because their activity is exercised upon questions of right and wrong, of obligations and duties, of things which ought or ought not to be done, or said, or thought, or felt.

Moral intuition.—*Intuition* gives the child the primary notion of a distinction between right and wrong; that there is a right and a wrong about which he has ability to learn. Intuition does not teach him what things are right and what are wrong. This he learns by other powers.

Moral perception and judgment.—*Moral perception* enables him to discover the moral qualities of many very simple acts, and states of mind. But the right or wrong of all things which demand study, examination, and comparison in order to learn their nature, he finds out, just as he finds out other matters, *by using his thinking powers, judgment and reason.* He must be taught concerning these as he is taught reading, arithmetic, grammar, or history. He learns standards, laws, or rules for right character and conduct, and decides whether things are right or wrong by comparing them with these laws or rules. These rules are the moral law, so called.

Conscience.—Conscience, which is the only power peculiar to what is called the moral nature, is that within the soul *which insists that we shall do what we believe to be right at all times and under all circumstances.* The judgment, which decides of the right and wrong of things, may make mistakes; may decide that to be right which is not right, or that to be wrong which is not wrong. This may happen through ignor-

ance. But conscience is never in error, and is always to be obeyed. This is only saying that we should always do what we believe to be right.

Moral feelings.—Obedience to conscience is attended and followed by feelings of satisfaction and self-approval; disobedience is attended and followed by feelings of dissatisfaction and self-condemnation, sometimes by anguish and remorse. These feelings are emotions. The affections and desires are either good or bad, right or wrong, and, consequently, are a part of the moral nature. The same may be said of all motives. In many cases an act is good or bad according to the character of the motive which prompted it. This is recognized by parents and by teachers, and even in courts of law. The aim of the teacher should be to lead pupils to act uniformly from the best and highest motives.

The will. Freedom of choice.—The will is a most important factor in the moral nature because it determines all voluntary conduct. Since the will is moved by desire, and desire is excited by the various objects about us which we call motives, it is sometimes said that we are not free to choose; that we are compelled to choose according to what is called the strongest motive. This is a very plausible statement, but it is easy to discover its fallacy. There is no absolutely strongest motive. We can make objects more and more attractive by giving attention to them, by thinking of them constantly or frequently. In this way we make them stronger motives. We can make objects less and less attractive by keeping them out of our thoughts, by turning our backs upon them, and thinking of something else. We thus make them weaker motives. It requires no arguments to establish this

since every one is *conscious of possessing power to do so, and is also conscious of freedom in choosing.* Such freedom is recognized everywhere, and children and men are punished for bad conduct because of the conviction that they could have done otherwise.

SUMMARY OF CHAPTER II.

1. Why is it necessary to study the child.
2. Illustration of the training of a horse.
3. The child complex, body and mind.
4. The nervous system; nerves and their offices.
5. Afferent or sensory nerves; efferent or motor nerves.
6. The five senses, and the knowledge primarily derived through each.
7. Acquired power of the senses.
8. The senses instruments of the mind.
9. The mind. Consciousness.
10. Relation of consciousness to the senses.
11. Sensations. Examples. Beginnings of knowledge.
12. Perception; a percept.
13. Ideas of space and time: how obtained.
14. Intuition; axioms.
15. The group of perceptive powers.
16. The power and process of representation.
17. Examples of representation. In school.
18. Concepts: how they differ from percepts.
19. Real representation or simple conception.
20. Ideal representation. Imagination.
21. Examples of the work of imagination.
22. Imagination in school work.

23. Memory: how it usually recalls.

24. What laws of association are.

25. Primary and objective laws.

26. Secondary and subjective laws.

27. The group of representative powers.

28. What thinking is, strictly speaking.

29. Analysis, abstraction, generalization.

30. General conception; general concepts.

31. The judgment; a judgment; reasoning.

32. The group of thinking powers.

33. Synopsis of the knowing powers.

34. The feelings, bodily appetites, natural, artificial.

35. Mental feelings: emotions, affections, desires, complex feelings.

36. Importance of a knowledge of the feelings.

37. The will: analysis of an act of the will.

38. Order of the mental processes.

39. Examples in dealing with a child.

40. The moral nature: moral intuition, perception, judgment, conscience.

41. The moral feelings.

42. The will: motives, freedom of choice.

43. How motives are made stronger and weaker.

44. Why men are responsible for their conduct. Testimony of consciousness.

CHAPTER III.

THE DEVELOPMENT OF THE CHILD.

Development in the plant and animals.—A grain of wheat contains in germ everything that grows from it; but the various parts of the plant appear in a regular and uniform order, "first the blade, then the ear, then the full corn in the ear." In the growth and development of animal life also we discover the same unvarying regularity and uniformity. One power and then another, and still another, reaches maturity; the animal passes through several stages or periods before he becomes, in all respects, a perfect being of his kind. In these different stages he requires different degrees of care and attention, different kinds of food, and various differing conditions. The man who raises sheep or cattle seeks to learn what is needed during each stage, and, in his work, directs his efforts accordingly. The gardener does the same in cultivating his plants. The child is subject, like the plant and the animal, to conditions and circumstances in his growth and development.

Subject of chapter.—It has been previously stated that the processes of development, training, and instruction must go on at the same time. It is convenient, however, to consider these under the two heads of development and instruction. This chapter will treat of development and of some inferences and deductions from the order in which this takes place, and from the means employed to produce it. These will enable us to discover *what the character of schools should be, what teaching is, and what relation the teacher sustains to the work*

of education. Methods of teaching are discussed under the head of instruction in the following chapters.

Use of the term law.—When just the same things take place day after day and year after year in a regular and unvarying order, the term law is used to indicate this order, or to indicate that which is supposed to be the cause of this regularity and uniformity. In this way the laws of nature are spoken of. The meaning is that the same events are constantly succeeding each other, and that some unchanging power or force causes them to do so.

Laws of development.—As the development of a child, like the development of a plant or the unfolding of a flower, proceeds with such regularity and uniformity always and everywhere, if not interfered with by violence or ignorance, we may properly speak of *laws of development.* These laws are easily reduced to three, which may be called (1) the law of *order* of development, (2) the law of *condition* of development, and (3) the law of *means* of development. The discussion which follows will have reference chiefly to the development of the intellect or the knowing powers of the mind.

First law.—(1) The law of order of development. The mental powers and activities of the child are developed and matured in a regular and unvarying order.

The order.—This order is (1) *the perceptive activities,* (2) *the conceptive or representative activities, and* (3) *the thinking activities.* It is not to be understood that one class of activities appear and come to a good degree of maturity before the next class begins to be manifested. The germs of all forms of mental activity exist in the child from the very

beginning of life, and nearly all forms of activity show themselves in some degree, even in the young child. But the predominating activities appear in the order named. There is first the vigorous activity of the senses, then of memory and representation, and lastly of judgment and reason.

Inferences from this law.—From this law we infer (1) that *the time of school life is naturally divided into three periods*, and that each period has certain peculiarities which distinguish it from other periods. No sharp line of separation can be drawn between the periods. The child passes gradually and imperceptibly from one to another. Comenius said, truthfully, "nature never moves by leaps." Little by little is the universal law in all her operations.

First period.—(*a*) The first period is childhood, which is *characterized by the marked activity of the perceptive powers, the senses.* The child learns by seeing, hearing, and handling things. He forgets easily and reasons very poorly. His judgment is of little worth. *He must be taught chiefly through the senses*, and by these he learns with marvelous rapidity. His feelings are as variable as the wind, and his conduct as capricious as his feelings. No uniformity of behavior can be expected of him.

Second period.—(*b*) The second period is youth, which is *characterized by the special activity of the representative powers, memory and imagination.* The senses are still very active, and the thinking powers begin to manifest themselves to a considerable degree. During this time the pupil makes great progress in those studies which depend upon the memory. Language is readily learned; facts are treasured up; material of knowledge is gathered; processes are easily mas-

tered in mathematics and other branches of science. The pupil is fond of doing things, but not so fond of explaining the reasons for the doing. *He should be instructed especially through the mental powers which are particularly active.*

Third period.—(*c*) The third period may be called maturity: not, indeed, full maturity, but the beginning of that state. The pupil is by this time in the high school, or in the most advanced studies of the ungraded school. This period is characterized by the growing activities of the thinking powers, *conception, judgment and reason.* The senses, as instruments for acquiring knowledge, take a subordinate place. The activity of memory assumes different form. Things are associated by relations which were not discovered or understood in the previous periods. Effects are mentally joined with their causes; conclusions are united with the premises from which they are derived; results are associated with the agents and events which produced them. *Teaching, both in form and matter, must be directed chiefly to the thinking powers* of the student, who is no longer a child.

Second inference.—(2) The second inference is that there should be *three classes of schools*, adapted to the three periods of school life, and to the three groups of mental powers.

First class of schools.—(*a*) The elementary or primary schools constitute the first class. This will include the kindergarten, the lower classes in the graded schools, and the primary classes in the ungraded schools. These schools should be adapted to the *characteristics and needs* of pupils in the period of childhood in all respects. The schoolroom, the furniture, blackboards, apparatus, studies, methods of teaching, length of lessons and recitations, provisions for physical exer-

cise and recreation, should have reference to the peculiarities of young pupils.

Second class of schools.—(*b*) The secondary schools properly include the higher classes of the grammar departments, the lower classes of the high schools, and the advanced classes in the ungraded schools. *These schools should be adapted, in all the particulars previously mentioned, to the characteristics and needs of the period of youth.*

Third class of schools.—(*c*) The advanced schools include the most advanced classes in the ordinary high schools, and all higher institutions of learning. *These must be adapted to the needs of students in the period of maturity*, and will vary in character and arrangements according to the special purpose of the school.

Third inference.—(3) The third inference is that methods, means, and appliances of teaching are naturally grouped into three divisions.

(*a*) *Elementary* methods and appliances, adapted to childhood.

(*b*) *Secondary* methods and appliances, adapted to youth, and—

(*c*) *Advanced* methods and appliances, adapted to maturity and to the purposes of the institution in which they are employed. Methods of instruction are treated in the next chapter. It is sufficient to say here that instructors in methods not unfrequently lead their pupils into error by neglecting to keep in mind these necessary divisions and distinctions.

Second law.—(2) Second law, *condition* of development: *The powers of the child are developed and matured only on condition of being properly exercised.* This is true of both of

the powers of body and mind. Any muscle, any limb, any organ of the body, never put to use, fails to become strong and vigorous. The same is true of any power of the mind, of the senses, the memory, the judgment; of the affections, of the will, and of the moral nature. If anything is to be made of the child he must, in some way, be induced to act. Activity is the law of life, and the activity must be voluntary, or self-activity. The child must act because he desires to act, must use his senses because he is impelled from within to use them. *It is the teacher's business to excite the desire by the material and methods which he employs.* If he fails in this his teaching is worthless.

A single inference.—A single inference is drawn from this law. *Provision should be made in all schools and by all teachers to secure appropriate exercise for all the powers of their pupils.* The kind of provision which should be made will be determined by the character of the school, by the age of the pupils, and by surrounding conditions and circumstances. The provision in the primary school and in the kindergarten must, of course, be very different from that in the grammar department or in the high school. In the elementary schools care must be taken to provide exercise for the body as well as for the mind.

Third law.—(3) Third law, means of development. *Appropriate matter for study properly presented to the mind of the child produces this necessary self-activity.*

Illustration, etc.—The law, as here stated, refers only to the mental powers. The term matter includes all objects and subjects of study in the schools or elsewhere. The natural effect of presenting the right kind of matter for study, in the

right way, to the perceptive or other mental activities of a child may be illustrated by reference to the action of the digestive and related organs of the body when food is presented to them. If the right kind of food, properly prepared and of proper quantity, is introduced into the stomach, the digestive organs begin to act of their own accord at once. There is no necessity for coaxing, or threatening, or driving; no prizes or rewards are necessary. The healthy child, at the table, finds sufficient stimulation in his natural appetite if the food is adapted to his age and wants.

Appetite of the mind.—The mind has an appetite as well as the body. In the young child we call this appetite curiosity; in the more advanced pupil, love of knowledge. The material of knowledge is the food of the mind. The mind enjoys hearing, seeing, and the action of the other senses, as much as the palate enjoys the taste of delicious food in the mouth. The thinking powers find as much pleasure in sorting over, comparing, and arranging matters of study as the digestive organs of the body do in their work. The powers of the mind grow, develop, and gain strength and energy, by receiving and digesting mental food as the powers of the body do by receiving and digesting material food.

First inference.—(*a*) The first inference from the third law, therefore, is this: *The primary relation of knowledge, that is, of all subjects of study, to the education of a child is that of means to an end.* The end proposed is the complete development, the thorough training, and the proper instructing of the pupil. The various studies, presented to the mind in the right way and at the right time, excite the mental activities which produce these results.

Another relation.—Knowledge has also another relation to education. *It is, to a certain extent, an end in itself;* it is useful in practical life. Things are taught and learned because they will be of service in business, and in various ways. So-called practical people usually think only of this relation, just as they think of food only as the means of gratifying their appetites. The food, however, serves its primary purpose of nourishing the body and securing its development, even better, probably, because this purpose is not thought of while it is received. So the primary purpose of acquiring knowledge is accomplished nearly as well when only the secondary purpose is kept in view. Useful knowledge promotes mental growth and development as well as any other, though not always in precisely the same direction.

Second inference.—(*b*) The second inference from this law gives us a tolerably complete statement of what real teaching is. *Teaching is presenting appropriate matter for study to the learner in such a way as to excite the necessary and proper mental activity, and giving right direction to this activity.* If this statement is correct, it is easy to see what the teacher's work is. It is not, in any strict construction of language, to impart knowledge or to give information. It is rather to bring the mind of the pupil and the matter of study, the thing to be learned, face to face, so to speak: to place the two in such relation that the activities of the mind shall be so aroused, excited, and allured that they must and will do their proper work, will seize hold upon the thing to be learned and will not loosen their grasp until it is mastered. Knowledge is not imparted to the child by this process. It is simply put within his reach, and he is directed, encouraged, and aided,

so far as may be necessary, to make it his own. The teacher does not feed the child, but helps him to feed himself: does not carry him up the hill and over the rough places, but points out the path and assists him to walk alone.

The best teacher.—He is not the best teacher who does the most for his pupil, but rather he *who enables the child to do most for himself.* He can do most for the child who knows most perfectly the child's nature, and understands the influences and motives which impel him to action, and who has the practical skill, gained by observation and experience, so to touch the sensibilities of the pupil as to bring out the very best there is in him—his best mental activity, and his noblest moral qualities.

RECAPITULATION.

The three laws of development and the inferences from them enable us to reach definite conclusions in relation to several matters of great practical importance to every teacher who wishes to have clear ideas of what schools should be, of what real teaching is, and of what his own duties are toward the children whom he assumes to instruct and guide.

1. They determine what the general character of the different classes of schools should be.

2. They guide in the selection and arrangement of the branches and parts of branches of study to be pursued in each class of schools. The studies must be adapted to the needs and the predominant mental activities of the pupils.

3. They show the primary and secondary relation of knowledge to education: first, the relation of means; second, that of an end; the two being compatible with each other.

4. They help us to see just what real teaching is or should be, and what relation it sustains to the education of a child.

5. This enables us to discover precisely what the work of the true teacher is, and what the criterion of excellency in that work should be.

6. These laws determine *what* should be taught during each period of school life, but do not indicate definitely *how* the teaching should be done, that is, do not determine specific methods of teaching.

SUMMARY.

1. Illustration of development in the plant and animal.
2. Subject of the chapter, development.
3. What the inferences from the order of development will show us.
4. Use of the term law; what laws of nature are.
5. Names of the three laws of development.
6. State the first law.
7. Give the order in which the groups of powers are developed.
8. One power not fully developed before another begins to be active.
9. First inference from first law.
10. The characteristics of the first period of school life.
11. How the child must be taught during this period.
12. The characteristics of the second period of school life.
13. How teaching should be done in this period.
14. The characteristics of the third period of school life.
15. How teaching should be directed during this period.
16. Second inference from the first law.
17. What the first class of schools should be.

18. What the second class should be.
19. What the third class should be.
20. Third inference from first law.
21. The second law of development.
22. The teacher's duty to excite desire.
23. The single inference from the second law.
24. The third law of development.
25. Illustration by reference to the action of the digestive organs of the body.
26. Appetite of the mind.
27. First inference from the third law; first relation of knowledge to education.
28. Another relation; the two relations not incompatible.
29. The second inference from the third law; definition of teaching.
30. Real work of the teacher.
31. The best teacher.

CHAPTER IV.

INSTRUCTION, OR TEACHING AND TRAINING.

Method.—Method is a way to an end. Hamilton says, "All method is a rational progress, a progress toward an end."

"Method is the way of reaching a given end by a series of acts which tend to secure it."

Methods in teaching.—*Methods in teaching are ways by which the teacher seeks to reach desired results.* For example, the alphabetic, phonic, and word methods are so many dif-

ferent ways of teaching young children to recognize at sight the forms of written and printed words, and to utter correctly the sounds indicated by the characters. The method adopted will include the whole series of acts and processes involved in arranging and teaching a single lesson or in teaching a number of consecutive and related lessons.

What determines methods?—What determines correct methods of teaching? and how can these methods be most readily and surely learned? The laws of development, as already stated, will guide in the selection of matter to be studied and taught during the different periods of school life, but they do not indicate clearly *in what way* subjects of study should be presented; that is, they do not determine *methods of teaching.*

An illustration.—An illustration will show the answer to these questions. The student of physical science wishes to put what we call the forces of nature to doing some work for him; to make electricity light up the streets of a city or turn the wheels of a street car, or transmit a message through a telegraph wire. He first seeks to discover how the forces of nature act when left to themselves. He makes experiments; questions, watches, waits, listens, and exercises long patience. He learns that certain results follow certain conditions arranged in a particular way, and that these results do not follow any other arrangement of conditions or circumstances. After a sufficient number of repetitions he becomes satisfied that he has discovered what he names a law of nature. He arranges the necessary conditions and thus makes nature his servant. His methods are merely imitations and copies of nature's methods, and the measure

of his success will be determined by the perfection of the imitation. The scientist obeys nature in order to command her; in his work he follows her teachings and applies her instructions.

What the true teacher does.—The true teacher imitates the scientist. His object is to learn in what way he may teach the child most successfully. In order to do this *he must ascertain in what way, by what methods, the child learns when left to himself.* He must discover by intelligent observation, by long and patient searching, if need be, what forms of activity the child's mind exhibits when acting spontaneously without either constraint or restraint. He must notice in what order these natural activities manifest themselves, what relation appears to exist between them, and what conditions and circumstances seem to be necessary to render their action most fruitful. Having made such discoveries, *the teacher has only to create the required conditions and to follow the mind's own order and methods of working.* If it is discovered that the mind seeks to grasp or take in the material of knowledge in a particular way and form, the teacher should present it in that way and form. If the mind proceeds to elaborate its knowledge, that is, to sort it over, arrange, and classify it, in some uniform order and by some specific method, the teacher must adopt this order and method in his work of instruction. If the mind retains and reproduces its acquisitions through the spontaneous action of certain natural laws of association, the teacher must learn these laws and make constant use of them in all school exercises. This is a rational interpretation of the maxim of Comenius that, "Educational

methods should follow the order of nature," although it may not be the usual one.

Conclusion.—We reach this conclusion: *Methods of teaching are determined by the natural modes of the mind's activity.* The teacher's ways of working must conform to the mind's ways of working. Right methods of teaching are such as follow the path along which the mind goes when free to choose its own way, incited by its innate love of activity. This is "following nature." This leads us to inquire concerning some of the most important and characteristic forms or modes of mental activity and the methods of teaching deduced from them.

General forms of mental action.—*Some forms of mental action are common to all periods of life*, to all stages of development, and to all conditions and circumstances. These are essentially the same in nature in the child and in the man. They differ only in degree and in productiveness.

Special forms of mental action.—*Some other forms of mental activity are peculiar to particular periods of life*, to special stages of development, and to peculiar conditions and circumstances. Childhood has its own peculiar physical activities, and so also have youth and maturity.

General laws of mind.—*Statements of these universal or general modes of mental action may be called general laws of mind. From these general laws of mind equally general laws of teaching may be deduced.* These laws of teaching are, in substance, descriptions of methods of teaching.

Four such laws.—These general laws of mind are easily reduced to four; *the first relates to the method by which the mind grasps or receives knowledge; the second relates to the*

method which the mind employs in assimilating or arranging its knowledge in proper order so that raw material becomes real knowledge; the third relates to the methods or processes by which the mind is able to retain and reproduce its acquisitions when it wishes to use them; and the fourth relates to certain conditions necessary in order that the mind may do the best work of which it is capable.

That the relation between them may be readily seen, the laws of mind and the corresponding laws of teaching are arranged side by side.

GENERAL LAWS OF MIND.	GENERAL LAWS OF TEACHING.
I. *First Law of Mind.*	I. *First Law of Teaching.*
The mind, at all periods of development, grasps or receives the material of knowledge, or that which it is learning, in the form of wholes or aggregates and masses, as far as this is possible.	The teacher should present the material of knowledge, or that which is to be taught, to the mind of the learner in the form of wholes or aggregates and masses, as far as this is possible.
II. *Second Law of Mind.*	II. *Second Law of Teaching.*
a. In studying, thinking over, and arranging the matter which it has received, the mind proceeds first from wholes to parts, from aggregates and masses to elements, thus attaining complete and definite knowledge. This process is analysis.	*a.* The teacher, in aiding the learner to acquire definite and complete knowledge, should proceed first by analysis, from wholes to parts, and from aggregates and masses to elements, giving full explanations and illustrations.
b. Afterwards the mind proceeds to put these parts and	*b.* Afterwards he should teach how these parts and

elements together into new wholes and aggregates, in this way increasing its knowledge and making it productive. This process is synthesis.

elements may be put together by synthesis, into new wholes and aggregates, and should give the pupil much practice in this work.

Fundamental laws.—These are the great fundamental laws of learning and teaching. Their application covers a large part of the teacher's work in all classes of schools. It is therefore desirable to be sure that these statements are correct, and that the mind does proceed in the order named, first analyzing and then reuniting.

How the senses present knowledge.—The senses are the activities through which the mind gets the beginnings of all its knowledge. In what form or condition do the senses present things to the mind? Our own experience enables us to answer at once. If an object, like an apple or an orange, which affects several of the senses, is brought before us, all the senses affected respond simultaneously. Sensations of sight, touch, taste and smell force themselves in upon the mind in a confused mass. We have at first only a very general and very confused idea of the object. We have a great number of partial and imperfect percepts, such as one gets from a single and hasty glance. We have yet no real knowledge. What takes place? The mind proceeds immediately and spontaneously to examine the sensations one by one, now giving attention to the color, the form, the size; now to the character of the surface, whether it be smooth or rough; now to the hardness or softness; now to the smell and taste. *This process of analysis goes on until every quality or characteristic which can affect any one of the senses has been, in turn, thoroughly investigated.* The idea of the object is no longer confused and indis-

tinct. The final, complete percept has become a collection of individual elements, each of which can be made, and has been made a separate object of thought. Synthesis here has perhaps almost unconsciously, followed the analysis. The object has been, so to speak, taken to pieces and put together again.

Examples.—Essentially the same processes take place whenever any new object of perception is presented to the senses as a body, or to any single sense. When listening to a choir of singers or to the music of an orchestra, a great aggregate of mingled sounds of voices or instruments strikes simultaneously upon the ear, and produces a confused mass of sensations. It is only by fixing the attention on the tones of single voices or the notes of particular instruments that we attain anything like definite knowledge.

How the child gains knowledge.—The child till he enters school, is constantly gaining knowledge in this way, is analyzing wholes and aggregates to find their parts and elements. Thus he learns trees, and flowers, and fruits, indeed all things about him. *This is Nature's method of instruction.* Progress is not "from the simple to the complex," but rather "from the complex to the simple."

Hamilton.—Hamilton says: "The first procedure of the mind in the elaboration of its knowledge is always analytical. It descends from the whole to the parts, from the vague to the definite. Having first acquired a comprehensive knowledge (that is, a general notion) of a thing as a whole, we can descend to its several parts, consider these both in themselves and in relation to each other, and to the wholes of which they are constituents, and thus attain to a complete and articulate knowledge of the object."

Caution.—A word of caution may be necessary. It is easy to misinterpret or misapply a general truth or rule. A whole may be too great for the senses or the mind to grasp by one effort. A whole of sight must be limited to the field of distinct vision. The whole presented to any sense cannot be extended beyond the reach of that sense. A great whole is often susceptible of natural division into several lesser wholes, each complete in itself. It is only necessary that there be a completeness and unity. "The whole may be a whole man, or only his face, or his eye, or the pupil of his eye, or even a mere speck upon the pupil." The whole, in each case, will be determined by the purpose in view, by the end to be attained.

Illustrations.—A few examples will illustrate how the teacher may apply these two laws, which require us to begin with a whole, and proceed first by analysis and then by synthesis.

Teaching reading.—Of the various methods of teaching young children to read, the alphabetic and phonic are synthetic. The first begins with elements addressed to the eye,—letters; the second begins with elements addressed to the ear,—sounds. Both proceed to combine elements to form wholes, words and sentences. Two other methods, though the two are really but one, the word and the sentence methods, are analytic, beginning with wholes in the form of single words or short sentences. These words are then separated into their elements, single letters and sounds, by analysis; afterwards these elements are combined to form new words and sentences.

From the known to the unknown.—In all teaching the maxim, "*Proceed from the known to the unknown*," rightly interpreted, should be followed. Suppose the maxim to mean this: *When presenting a new lesson, or a new subject, to a*

child, make what the child already knows the starting point, and from this lead him, by natural and easy steps, to grasp and master the new, the now unknown thing. The unknown, selected as the point of departure, should be chosen with careful reference to some obvious relation existing between it and the unknown thing which is to be learned.

The known to the child in the reading lesson.—The child, commencing to learn to read, knows many objects, qualities, acts, and relations of things; and he also knows the spoken names or signs of all these. The spoken signs, that is, the words; are known as wholes; and the words and what they represent are thoroughly associated in the mind so that either will immediately suggest the other. So much is the unknown. The unknown consists of a set of new signs, addressed to the eye, that is, written or printed words. These are to be learned and mentally associated with the spoken words and also with the objects and acts which they represent. The spoken word is here the starting point. The step from this to the written word, taken as a whole, is short, direct and easy. It conforms to the law: Begin with the whole.

First step.—*Teach first, therefore, a number of words or short sentences as wholes.* This work can be done most effectively by the use of the blackboard and crayon. The maxim, "*One thing at a time*," should be kept in mind. Do not try to teach too many new words at one lesson. Sometimes a single new word will be enough. When the new words have certain similarities to words already taught, several may be included in a lesson, perhaps three or four. Suppose the sentence, *The boy runs*, has been taught. Taking this as a beginning, introduce new words to form the sentences, The *girl* runs, The

horse runs, The *dog* runs, and so on indefinitely. The sentence may be varied in other ways; as: The boy *walks*, The boy *sits*, The boy *stands*; or, after several nouns and verbs have been learned, in this way: The boy runs *up* the hill; The boy runs *down* the hill; The boy runs *over* the hill. Another change should be made, at the proper time, by introducing the plural number, as: The *boys* run. The attention of the class should be directed to the slight changes in the forms of the words, and several sentences should be taught to illustrate these changes.

These examples are sufficient to show what is meant by beginning with a whole in teaching young children to read. This method imitates and follows nature, and it also goes from the known to the unknown in a natural way. This is merely the first step, however.

The second step.—*The second step is to analyze or separate the words, which have been learned as wholes, into their parts or elements; that is, into the separate letters and sounds of which they are composed.* Until this is done they are not thoroughly learned. This analysis should be made clear both to the eye and ear. For example, the word *dog* may be written on the board in the usual form, and pronounced in the usual manner. Then it may be written with the letters separated thus: *d o g*, and the sound of each letter may be uttered separately and distinctly. In this way, or in some other, if a different way is preferred, the work of analysis should be carried on until all the letters are learned, and most of the elementary sounds. The diacritical marks will very naturally be taught and learned in connection with this analysis.

The third step.—Pupils are now prepared, if the work thus

far has been thoroughly done, to begin the third step, *the synthetic work. This consists in putting together these parts and elements to form new words.* The child is now able to learn new words with very little assistance. His progress from this point should be comparatively easy and rapid. Analysis prepares the way for synthesis. Real teaching usually involves both processes.

The laws applied to lessons in language.—Lessons in reading are lessons in language, and instruction in reading prepares the way for more specific and formal instruction in language. *The laws which we are considering, require such instruction to begin with the sentence, which is the natural unit of language.* Begin (1) by teaching children to express their ideas about common and familiar objects in correct oral sentences. Give much practice in this, guiding them by questions and suggestions, to form all the various kinds of simple sentences. If mistakes are made, lead them, as far as possible, to make corrections for themselves.

Give practice.—(2) As soon as children are able to write with some facility, *give them abundant practice in writing sentences of all kinds.* Interest in this work will be increased by having the sentences united to form connected descriptions and short stories. Simple stories may be read or told by the teacher or by some of the pupils, and the children may reproduce these, sometimes orally, sometimes in writing. This kind of language work, with natural variations and additions, should be continued through all the primary grades. Sentences of all forms and varieties are thus learned as wholes.

Analysis.—(3) After a good degree of facility in constructing sentences has been acquired, *the work of analysis should be commenced.* First the main parts of sentences, the subject and the predicate, should be learned; then, one after another, the various modifiers; and finally all the parts of speech with their variations of form and use. This part of the work should not be hastened, and everything should be made as clear as possible.

Synthesis.—(4) *The synthetic work, which consists in putting together the elements of sentences to form new sentences, should be commenced in connection with the analysis,* or as soon as the elements and parts are well understood. Exercises in forming sentences containing particular nouns, verbs, adjectives, adverbs, prepositions, and so on, will be profitable and interesting. As pupils advance in their work the synthetic processes will include the writing of stories, essays, and descriptions of various kinds.

The productive work.—It should be observed that here, as in all studies, *the analytic work is, in reality, only preparatory to the synthetic. The latter is the productive work.* Too much time and labor are frequently spent upon analysis, and too little upon the constructive processes. The ability to take things to pieces is of less value than the skill which helps one to put them together, or to make similar new things.

Lack of space prevents the application of these general laws to methods of teaching other branches of study, but the intelligent teacher can easily apply them for himself.

III. *Third law of mind.*	III. *Third law of teaching.*
The mind retains and reproduces what it has learned by natural principles or laws of association. The effectiveness of these laws is increased by certain conditions of mind and body.	The teacher, in arranging lessons and in giving instruction, should have constant reference to the natural laws of association, and should endeavor to produce in his pupils proper conditions of mind and body.

Laws of association.—The most important of these laws and conditions have been mentioned in treating of the mental activities under memory. They are *similarity*, *contrast*, and *contiguity*. The law of contiguity embraces a large number of relations such as the sign and thing signified; cause and effect; subject and attribute; whole and parts, and many others.

What this law covers.—This third law covers the whole subject of *the development and cultivation of the memory*, a subject of the highest importance both to scholars and teachers. Knowledge is of little practical value unless it can be recalled when wanted. It is the teacher's business to see that lessons are so assigned and so learned that the matter of them can be reproduced. The undue prominence given to memory by some old methods of teaching has created a disposition, in some quarters, to undervalue its proper cultivation.

Upon what memory depends.—The power to retain and recall our acquisitions depends upon (1) *the depth, vividness, and distinctness of the impression made upon the mind*, and (2) *upon the formation of proper associations or connections between the new knowledge and something previously learned;*

or, when this is not possible, between different things learned at the same time. It is better to make the association between the new and the old, and usually this can be done.

Upon what the impression depends.—The character of the impression made upon the mind depends primarily and chiefly upon (1) *the sort of attention given in the learning, and secondarily* (2) *upon repetition.* Intense and absorbing attention produces an effect upon the mind which may be compared to that produced upon some yielding substance by a single heavy and vigorous stroke of a sharp-pointed hammer. One blow is sufficient to secure the necessary impression. The effect of repetition is like that produced by a great number of light strokes. Each blow increases the depth a little. Many strokes are necessary to produce the desired impression. A single act of intense attention may be sufficient for older students, but *young children must have an abundance of repetitions.*

Suggestions as to attention.—Since securing and commanding attention is one of the most effective means of cultivating and improving the memory, a few suggestions in relation to attention will be in place at this point.

1. The teacher should keep in mind the fact that *the attention of young children is, to a very large extent, non-voluntary;* that is, the attention is not directly under the control of the will. Inattention on their part is not evidence of great perversity of disposition or character.

2. While the attention of children may be arrested and directed for a short time by commands and requests, it cannot be held by such means. Appropriate allurements and enticements must be employed. Objects of study must be made as attractive as possible; curiosity must be excited, and the love of variety must be gratified.

3. Attention follows interest. If the teacher is alive and thoroughly interested, full of enthusiasm, these feelings will be communicated to the children by the natural power of sympathy. The teacher's interest will usually create interest in pupils.

4. *Make only reasonable demands upon the attention of young children. All lessons and exercises should be short, with frequent intervals of relaxation and with much physical exercise.*

5. In dealing with advanced pupils treat them as if you expected attention from them. Assume that they are ready and willing to give it. Teachers, like other people, usually find what they look for and anticipate.

6. Conduct recitations so as to make constant attention necessary on the part of every scholar. Questions should generally be put to the class as a whole, and then individuals should be called upon to answer them. At any point in the recitation call for statements previously made, or for a summary of the work already done. Speak distinctly, but in a natural and ordinary tone of voice, and do not fall into the habit of repeating questions and statements over and over. Let it be understood that questions are to be stated but once.

The second point.—The second matter to be considered in the training of memory is the formation of proper and effective connections or associations, the uniting of new knowledge to what has been already fixed in mind, and the uniting of the various parts of the new matter so that any one part will be sure to suggest all the rest.

How the union is effected —*This union of the different parts will be effected by arranging and presenting them in*

some natural order under the law of contiguity so that the first suggests the second, the second the third, and so on. In many cases the laws of similarity and contrast will determine the order. In such case one law reinforces another and the union is rendered still stronger. Suppose, for example, one wishes to fix in memory the names of ten persons or places which have no apparent relation to each other. Any one of several methods of arrangement may be adopted. They may be arranged alphabetically, that is so that the initial letters follow each other in alphabetical order. This is a good arrangement if nothing more is desired than to retain the names. Here we follow an order which repetition alone has made familiar.

End in view to be regarded.—If the names are names of cities, and the desire should be not only to fix the names but also to indicate, at the same time, their relative size, the words should be arranged in the order of population, the names of the most populous being placed first. If the words are names of men, they may be arranged in the order of age, or in the order of notoriety. *The particular order adopted in any given case must be determined by the end in view.*

Laws in arithmetic.—In teaching primary arithmetic the laws of similarity and contrast are especially useful, and should be kept constantly in mind by the teacher. Similarity is noticed in the increase in value of figures from right to left, in the separation of figures with periods, in the repetition of figures in writing numbers above ten, and in many other points. The similarity of multiplication and addition will suggest that they be taught in connection.

The law of contrast will cause subtraction to be taught in connection with addition, and division with multiplication. Similarity will unite subtraction and division. The third general law of mind and of teaching seems to require that the four so-called fundamental operations in arithmetic be taught and learned simultaneously.

Elementary reading.—In teaching elementary reading the first law of association employed is that which binds together the sign, that is the name, with the things signified, the object, act, and so forth. *The end sought in teaching, at this time, is to make this association so firm that the thing will instantly suggest the sign, or the sign the thing,* and also to associate the oral sign or word with the written one so thoroughly that either will immediately suggest the other. The child is not prepared to use a book profitably until this has been accomplished.

The law of similarity also does valuable service in the early stages of this work, as it does in the more advanced stages. If the form and sound of the letters *at* have been learned in the word *cat*, they should be recognized at once in the new words presented, such as *hat, sat, rat, mat.* If the sentence *I have a book*, has been taught, then the similarity of such sentences as: *You* have a book, *We* have a book, and so on, will make the work of learning very easy. Examples might be multiplied, but these are sufficient to show in what direction the teacher's duty lies. This law of similarity is of constant service in all language work from the lowest to the highest grades, and should be observed in the preparation and arrangement of all lessons.

In geography.—In geography things are grouped together, to a large extent, under the laws of similarity and contrast; but the law of contiguity is of especial service. Rivers are learned and associated readily by following coast lines. Towns and cities are associated in the same way, or by following lines of railroads. Persons, places, and events are associated together; industries are associated with the places where they are carried on; agricultural and other products with the localities which produce them.

In history.—The associations employed in teaching history are made by the laws used in geography. In more advanced historical work the law of cause and effect is of much service; events are traced backwards to their causes, or onward to their consequences; the characters of men are associated with the conditions which fashioned them, and with their nfluence upon the age in which they lived and upon subsequent ages.

Other branches of study.—Without particular reference to other branches of study, these illustrations are sufficient to indicate how memory is to be cultivated, and what the teacher should attempt to do in all lessons. Much teaching and many lessons amount to nothing because no proper use is made of the principles of association. *All valuable training of the memory depends upon making such arrangement of the matter to be remembered, and producing such conditions that the mind can act freely and vigorously according to its own natural laws of association.* Artificial systems for cultivating and increasing the power of memory have very little value.

IV. *Fourth law of mind.* The mind can receive only a limited amount of matter at one time, and in order to secure the most vigorous and productive activity the mind must have some variety in subjects of study and periods of relaxation and rest.	IV. *Fourth law of teaching.* The teacher should present only a properly limited amount of matter to the mind of a pupil at one time, and should provide for sufficient variety in subjects of study and for periods of relaxation and rest.

No definite rules.—No definite rules can be given in respect to the length of lessons in different branches of study. Only general suggestions can be offered, but the subject is important enough to demand careful consideration. As a rule, young and inexperienced teachers give longer lessons than older and more experienced ones.

Things to be considered.—Several things must be taken into account: (1) The general ability and previous training of a class. Considerable differences are found in the average ability of different classes; (2) the nature of the study. Some studies require more time and thought than others; (3) the number of studies pursued by a class at the same time. A class with only two or three studies can take longer lessons than one with four or more; (4) the time given to a recitation. A recitation occupying thirty or forty minutes may properly cover more ground than one confined to fifteen or twenty minutes; (5) the method of teaching. Some so-called teachers merely hear recitations; others do some actual teaching. As a rule it requires more time to teach than it does simply to listen while pupils repeat what they have learned. It should be understood, both by teachers and scholars, that the number

of pages of a text-book "gone over" is no certain criterion of the actual progress made by a class. A small amount of matter thoroughly mastered is worth more than twice the amount "skimmed over" and not half learned. Generally only one or two really important points should be included in a single lesson for young children. *The concentration of attention, thought, and effort upon one thing at one time is the prime condition of fruitful study.*

Assignment of lessons.—Lessons should be assigned with great care, especially to young children. It is not sufficient to say take so many pages or so many paragraphs. The precise thing to be learned should be pointed out, and all matters of special importance should be indicated. Children often waste much time in fruitless effort because they are not properly directed. It is safe to say that *no teacher can assign a lesson wisely unless he has himself thoroughly and freshly prepared it.*

Rest and change important.—The importance of relaxation and rest of mind can hardly be overestimated. The efficiency and productiveness of any form of mental activity depend very largely, indeed almost entirely, upon the freshness and vigor of the mind. Scholars sometimes estimate their merits as students by the number of times a lesson has been studied over, or by the number of hours occupied in so-called studying. One might as well estimate his merits as a traveler by the number of hours spent on the road. *The prime factor both in study and travel is the rate of speed;* and the rate must, in most cases, depend upon the freshness of the student or the traveler. *The aim of every student should be to acquire the power to do a certain amount of mental labor in the short-*

est time in which it can be well done. The aim of the teacher should be to help the pupil in the acquisition of this power. He will do this most effectively by teaching him how to work, how to study, and how to secure relaxation and rest. We are here considering the resting.

Sleep.—(1) Perfect rest, either of body or mind, is found only in natural and profound sleep. Such sleep usually appears to be dreamless. So-called sleep, induced by drugs or other artificial means, lacks the curative and restorative power of natural sleep. It is now generally admitted that "brain-workers" need as much sleep as men engaged in hard manual labor. The average required, according to the best authorities, is about eight hours out of the twenty-four. A temporary gain may seem to be secured by reducing the hours of sleep, but the result, in the end, is usually a real loss.

Physical exercises.—(2) Next to sleep, appropriate forms of physical exercise afford the best mental relaxation. Such exercises must be adapted to the age, to the condition of the body, to the previous habits of the individual, and to surrounding circumstances. *The important consideration is that the form of exercise shall occupy the attention without severely taxing the mental powers.*

In school.—In the primary school lessons and physical exercise of some appropriate kind should alternate. Lessons should be short, full of energy and life, and so conducted as to command and absorb every thought and energy of the children. Equally absorbing periods of physical exercise should follow. In more advanced grades light gymnastics, calisthenics, and other forms of exercise should be introduced as much as circumstances will permit.

Alternation of studies.—(3) In all grades, but especially in the high school, mental relaxation and relief must be obtained by suitable alternation of studies. Provision must be made for such alternation in the program of recitations and other exercises. Opportunity should be given, as far as possible, for the exercise in turn of the three typical modes of mental activity, the perceptive, the representative, and the thinking.

Mathematics.—Mathematical studies, after the elementary stage is passed, call into exercise particularly the thinking process of comparing, judging, and reasoning, together with some forms of representation. They appeal very little to sense-perception.

Sciences.—The natural and physical sciences, such as botany and physics, when taught by modern methods, excite the activity of perception to a high degree, and do not tax the other powers severely, although the processes of classification are constantly carried on.

Geography and history.—Geography and history appeal primarily to the representative powers, simple conception, imagination and memory. When taught, in advanced classes, with reference to causes, consequences, and the broad generalizations. they exercise the thinking powers very fully. Perception is not much exercised.

Reading and language.—Reading, language and literature exercise in a marked degree conception, imagination, judgment, and taste, which is a form of judgment with an intermingling of emotion and other feelings.

Order of recitation.—Keeping in view the mental activities exercised by the different branches of study, it will be easy to

provide for the necessary alterations of psychical action. The order in a program may be greatly varied. It may be reading, arithmetic, grammar; or mathematics, science, language, as geometry, zoölogy or botany, Latin or literature, or any one of several other possible arrangements. As a rule, studies which demand vigorous and protracted thinking, and very close and accurate analysis, should be placed in the early part of the day; and those lessons which require only a moderate degree of mental exertion and allow considerable exercise of body, should be placed near the close of the day. Yet the difficult and the easy, the heavy and the light should be interspersed, to some extent, throughout the entire program.

SUMMARY OF CHAPTER IV.

1. Method defined, methods in teaching.
2. What determines methods. Illustration.
3. What the true teacher does.
4. General forms of mental activity.
5. Special forms of mental activity.
6. General laws of mind and of teaching.
7. First law of mind; first law of teaching.
8. Second law of mind; second law of teaching.
9. What analysis is; what synthesis is.
10. How the senses present knowledge to the mind.
11. Examples of the action of the senses.
12. How the young child gets knowledge at home.
13. Hamilton's statements; caution.
14. Illustrations of the application of these laws to teaching reading, language, etc.
15. Meaning of the maxim: "Proceed from the known to the unknown."

16. Steps in teaching primary reading.

17. Steps in teaching language.

18. What the *productive* work is.

19. Third law of mind; third law of teaching.

20. Laws of association. What the third law covers.

21. Upon what the power of memory depends.

22. Upon what depth of impression depends.

23. Suggestions as to attention.

24. How associations of objects and ideas are formed.

25. Laws of association used in primary arithmetic; in reading and language; in geography and history.

26. Fourth law of mind; fourth law of teaching.

27. As to rules for length of lessons. Points to be considered.

28. Assignment of lessons.

29. Importance of mental rest and relaxation.

30. Sleep; physical exercises; alternation of studies.

31. Mental activities exercised in the study of mathematics; of sciences; of geography and history; of reading and language.

32. Suggested order of studies in a program.

CHAPTER V.

INSTRUCTION, OR TEACHING AND TRAINING.

CONTINUED.

Special laws of mind and of teaching.—As previously indicated, each period of life has some forms of mental activity peculiar to itself. These different forms appear at all periods, indeed, but do not exhibit the same rela-

tive degree of prominence and vigor. Statements of these forms of activity give us what may be called *subordinate or special laws of mind; and inferences from these laws of mind afford subordinate or special laws of teaching.* These special laws of teaching include the substance of many of the so-called "educational maxims," some of which are found as far back as the time of Comenius. Harm has been done, in some cases, by efforts to elevate these subordinate laws or maxims to the rank and position of universal or general truths.

Correlated laws.—As a matter of convenience, and also as an aid to the memory, several of these laws, both of mind and of teaching, are here presented in two correlated parts, one part referring to an *earlier*, the other to a *later* period of mental development.

SPECIAL LAWS OF MIND.

1. (*a*) In his early learning the child must begin with the concrete, that is, with objects, acts and qualities; these cause the production of ideas; words are then needed as signs, to name and describe the objects and ideas. The order is (1) objects, (2) ideas, (3) words.

(*b*) Later, when words and the things which they signify have become thoroughly associated, the learner begins, in many cases, with words, as the signs of things. These cause the production in the mind of

SPECIAL LAWS OF TEACHING.

1. (*a*) In teaching young children the teacher should begin with the concrete, that is, with objects, acts and qualities; should excite curiosity and help the production of ideas; should then teach words, as signs, to name and describe the objects and ideas.

(*b*) In later periods, when words and the things which they signify have become associated, the teacher should begin, in many cases, with words, and through these secure the formation of correct

images, pictures, or ideas of whatever the words signify. The state of mind is naturally followed by the proper expression and description of these images and ideas.

mental images, pictures, or ideas of whatever the words signify, and then guide the pupil in the proper expression or description of these images and ideas.

The first part of these laws refers to the strict elementary period of the child's school life. To this period such maxims as the following apply: *From the concrete to the abstract. Things before words.* The second maxim should be amended to read. Things *and* words. *One leading purpose of the teacher, at this stage, is to render the association between objects, ideas and words so perfect that either will enable the child to recall the others instantly.* The child is learning mainly through his senses, and the teaching must be directed accordingly.

Object teaching.—Object teaching belongs here, and also objective teaching. The two should be carefully distinguished. The first is teaching objects themselves, their means, their parts, of what they are composed, their uses, and whatever may be of interest or value concerning them.

Objective teaching.—Objective teaching, on the other hand, makes use of objects merely as convenient means of reaching some desired end, as when numbers are taught by the use of sticks, crayons, pebbles or any other things which can be handled and counted, or geography is taught by the use of sand or clay. Objective teaching may be profitably employed in all branches of study in the primary grades, and in some branches in the higher grades.

Use of object lessons.—Object lessons, properly conducted,

are especially valuable for *developing and training the activity of the senses, and for creating the habit of observing.* No power of the mind is developed and trained except by fitting exercise. In order to secure such exercise means and opportunities must be supplied. The senses can be trained only by giving them something to do. The eye learns to see by seeing; the ear by hearing; and the other senses become skillful in their peculiar work by doing it. The same law holds true in all manual training. But proper instruction and direction are necessary in all cases. Both the senses and the hands need to be guided. It is the teacher's business to give the proper instruction, direction, and guidance. So much being granted, the maxim of Comenius is true: "*Let things that have to be done be learned by doing them.*

Bad object lessons.—Object lessons may be so conducted as to be worse than useless. This is the case when children are required to learn and repeat, in a mechanical way, long lists of names of parts, qualities, characteristics, and uses of objects, all of which they know before entering school. So far from cultivating and quickening the activity of the senses, this method of teaching really tends to produce "artificial stupidity," the senses are dulled by it.

Children must use their own senses.—Children must be allowed to see, hear, taste, smell, and touch for themselves, and not be taught simply to repeat what the teacher sees and hears. But they should be so directed that they will learn to observe *with order, regularity, accuracy, and finally with rapidity.* Beginning with objects of which the children have some general but very indefinite knowledge, the genuine teacher will lead her pupils to discover for themselves parts,

qualities, characteristics, and other peculiarities which have hitherto entirely escaped their hasty and careless notice. An old object is thus transformed into a new one, and invested with a species of enchantment. The common-place world, in which the children have been living, is suddenly changed into a world of wonders, marvels, and charms at the skillful touch of an inspiring teacher. The value of this work does not consist in the little knowledge gained by the pupils, but in the acquired *power of perceiving* and in the acquired *habit of accurate and rapid observation.*

Final result.—The final result is that the child comes to observe almost or quite unconsciously; he sees and hears without effort, and thus acquires a vast amount of useful and interesting knowledge with no expenditure of time or labor, and with positive and constantly increasing pleasure. *This is the development and training of the perceptive powers;* the opening of the gate-ways of the soul; the bringing of the mind and of the material of knowledge face to face, which constitutes, as previously stated, real teaching. This is Mr. Page's "waking up the mind."

Some questions on observation.—How many young people, even teachers, who have lived all their lives in the country, surrounded with trees, fruits, and flowers, can draw or describe the forms of the leaves of the different kinds of trees? can tell the names of the common flowers by the roadside? or how many petals the apple or pear blossom has? or what the uses of the corn tassels are? or how new varieties of potatoes are produced?

Examples of concrete lessons.—Concrete teaching may be extended with great profit and interest far beyond the use of

simple objects in giving the first lessons in numbers. Older children are fond of concrete examples in arithmetic. A class may be set to measuring the floor of the schoolroom and to determining the number of square feet in it; the same may be done in respect to the sides and ceiling of the room. The number of cubic feet contained in the room may be calculated, and the number of cubic feet for each scholar. These and similar problems have an interest for pupils which mere abstract questions do not possess.

More examples.—At different seasons of the year questions relating to familiar matters may be suggested. For example, pupils a little advanced in arithmetic may be asked to determine the number of stalks of wheat on an acre of ground, being instructed to count the stalks on a few square feet in different parts of the field so as to ascertain the average number on one square foot. In the same way the number of hills of corn on an acre may be calculated, or the number of forest trees on a certain number of acres. Such examples may be multiplied almost indefinitely in a farming district. In a lumber region a different class of examples would naturally be devised, and in a mining section still a different sort, and so on, the particular examples being varied according to conditions and surroundings.

Spelling lessons.—Lessons in spelling may frequently be made from objects, by taking the name of an object, the names of the parts, words denoting the uses of the object, and other words suggested by the object or associated with it. Such lessons may be made lessons in language as well as in spelling.

Second part of these laws.—The second part of these laws refers to the work of the secondary stage of learning and teaching. However, it must always be kept in mind that *the transition of the child from one period to the next is very gradual.* Consequently the method of teaching must be changed very gradually. Little by little the object and objective methods must give place to methods which address the conceptive or representative power more directly. Pupils are now prepared to use books; and the order of progress is (1) words, (2) ideas, and (3) expression, while in the first period the order was (1) objects, (2) ideas, and (3) words.

The order in reading.—The order is illustrated by the lessons in reading after children begin the use of the second reader. The printed words, as the pupils look upon the page, cause the production in the mind of images, pictures, ideas, representations of the objects, acts, persons, and so forth, of which the words are signs or symbols. These mental ideas, images, and pictures are expressed or described in the vocal reading by the tones, inflections, and emphasis employed by the readers. The character of the reading will show whether the representations in the mind are correct and distinct. *A book cannot be used with advantage until such representations can be readily and accurately formed.*

Order in language lessons.—This order is also observed in language lessons when the teacher reads or relates some story and requires the members of a class to reproduce the substance of it in writing. In this case the spoken words cause the formation of the mental representations which are then expressed by written words.

Different modes of expression.—The expression is not always by words. *It may be by acts or by signs of various kinds.* For example, the teacher says to a child, "Please bring me your reading book;" the child does as requested. The act is an expression of the ideas produced in the mind by the teacher's words, and could not have been performed correctly if the representations had not been correctly formed.

In arithmetic.—An example in arithmetic is read; a pupil goes to the blackboard and places upon it a number of figures and other characters. This work is an expression of the ideas caused by the reading, and the work will indicate what sort of ideas were formed.

Representation begins early.—This process of mental representation begins at a very early period of the child's development, and *the power to form correct and clear ideas, when words or other signs are used, should be cultivated as carefully and diligently as the perceptive powers when objects are employed.* It is possible to use the object and objective methods of instruction too long. The child in that case becomes accustomed to depend too much upon perception for his mental notions. The power to form mental pictures from words is not called into activity, and consequently is not developed. The result is that memory, conception, and imagination are retarded in their growth, and sometimes permanent injury is inflicted upon the mind.

II.	II.
a. The young child proceeds in its learning, for the most part, inductively; that is, from individuals to classes, and	*a.* The teacher of young children should proceed, for the most part, inductively; that is from individuals to

from particular cases and examples to general truths and principles.

b. In later periods the learner proceeds, in many cases, deductively; that is, from classes to individuals, and from general truths and principles to particular cases and examples.

classes, and from particular cases and examples to general truths and principles.

b. The teacher of advanced classes should, in many cases, proceed deductively; that is, from classes to individuals, and from general truths and principles to particular cases and examples.

For the purpose of emphasizing certain points of special importance a third law is added, although it is virtually included in the second, and will be discussed in connection with that law.

III.

a. The child naturally seeks to learn facts, events, processes, examples and so on, before he is interested in studying causes, reasons, consequences, rules, definitions and principles; and he learns language before the laws of language, that is, before grammar.

b. After the thinking and reasoning powers have become considerably developed, the student naturally seeks to commence the study of many subjects with statements of rules, definitions, principles,

III.

a. The teacher should present facts, events, processes, examples, and so on, to children before requiring them to study causes, reasons, consequences, rules, definitions, and principles; and should teach languages before the laws of language, that is, before grammar.

b. In giving instruction to advanced scholars the teacher may often begin with statements of rules, definitions, principles, and hypotheses, and then proceed to investigate, explain, and illustrate the

and hypotheses, and then goes on to investigate and discover the application of these. He also commences the study of new languages by applying, as far as possible, the laws and principles of languages already learned, that is, with grammar.

various applications of these, and the inferences and deductions from them. He should also commence instruction in new languages by applying as far as possible, the laws and principles of languages which the student knows, that is, with grammar.

Applications of the second and third laws.—The applications of the second and third laws to methods of teaching particular subjects will be readily understood by almost anyone, and they will not, therefore, require very extended illustrations. The young child, at first, knows only individuals, and can have no conception of classes. It is true he uses general terms, such as boy, man, dog, horse, but he employs these, for considerable time, only as names of individuals. Very gradually, but probably somewhat earlier than we have been accustomed to suppose, the child begins to form confused notions of classes of things, such as are indicated by common nouns, like fruit, flower, animal and tree He then commences to make generalizations, often very crude, and sometimes amusing.

First ideas of classes of objects.—*The child's earliest ideas of classes of objects are probably obtained by a process of elimination;* that is, by putting aside or out of view, one by one, characteristics which belong to single individuals, and by retaining and combining the characteristics which are discovered to be common to a large number of individuals. If this be true, it indicates the method which the teacher should adopt in the school. For example, suppose a child

sees an apple for the first time, and that this particular apple is red. The word apple now means to the child only this one red apple. Suppose to-morrow a yellow apple is brought to the child, and afterwards a green apple, and then others of variegated colors. Gradually the notion of any particular color is eliminated from the idea expressed by the general term apple. By a similar process the notion of any particular size, or of any specific taste, will be removed, and only a few characteristics will remain included in the idea or general notion of an apple.

Induction.—*Induction is the process by which we reach general truths, laws; and rules by examining a considerable number of individual things, cases, or examples.* The mind naturally follows this method, and the teacher should adopt it in leading children to discover and formulate rules in arithmetic, grammar, and other common studies. A rule in arithmetic is usually nothing more than a concise description of a process; in grammar a rule is usually merely a brief statement of a general truth in respect to the arrangement or form of words.

Examples of induction.—The process by which a child reaches a general truth may be easily illustrated by reference to some of the things with which children are supposed to be well acquainted.

Ask a child how many petals an apple blossom has; he will examine a few blossoms, plucked from half a dozen different trees, and answer without hesitation, five. Inquire how many seed cells the apple has, and he will arrive at his conclusion by the same method. In all such cases children reason correctly, although the process is probably almost

unconscious. In the school they will frequently need to be guarded against the danger of drawing conclusions too hastily and from an examination of an insufficient number of individuals.

In arithmetic.—In elementary work in arithmetic the teacher should require a pupil to "do" a considerable number of similar problems, to examine with great care the process in each case, and then to formulate a rule for all problems of the same kind.

Essentially the same method should be employed in more advanced classes in mathematics, and in all other studies, until the most important general truths and rules have been mastered.

Processes before reasons.—Children, from the very nature of their minds, will learn to do many things in certain branches of study and will find great pleasure in doing them, long before they can fully and clearly understand the reasons for the processes which they employ. They can discover a rule, and can work by the rule, while unable to comprehend the principle upon which the rule depends. At this stage of their development and progress it is unwise to attempt to teach them to repeat in a parrot-like way explanations and principles which have no meaning to them. Require reasons so far and only so far as they are capable of giving them understandingly.

Deduction.—When general principles have been learned by induction, and definitions and rules have been mastered, the method of teaching, in many cases, will naturally be changed. The principle, the definition, or the rule, becomes the starting point. The method is now deductive. *Deduction*

is the process of applying general principles, definitions and rules to particular cases and individual examples.

Illustrations.—For illustration, as soon as a pupil has thoroughly learned the rules of addition, subtraction, multiplication, and division, he has only to apply these to the solution of any new problem which is given to him. The inductive processes are no longer necessary. The same is true in the study of language, and indeed in all studies.

The deductive method is especially employed in all branches where the work is largely classification, as in botany and zoölogy. The characteristics of great families or classes are first learned, and these characteristics are then used in determining what individual plants, flowers, or animals are, and where they belong in the vegetable or animal kingdom.

Both methods employed constantly.—While elementary methods are mostly inductive, and advanced methods are largely deductive, yet *both induction and deduction are constantly used in every grade of a school and in almost every class and study.* Frequently both are employed in the same lesson. Induction being first used to reach some general law or rule, and then deduction in applying this law or rule to special cases and examples.

Language before grammar.—The third special law requires language to be taught before grammar. Under one of the general laws some suggestions were made for teaching language lessons. A few suggestions will be added here in respect to the very earliest instruction in language to the youngest children. *Next to the training of the senses the most important work of the primary teacher is the training of her pupils to use language correctly and readily.* Children learn

their first lessons in language by imitation. They repeat what they hear. Forms of speech, acquired before entering school, cling to them through all after life. If these forms are correct the teacher's task is comparatively easy; if they are bad her work is much more difficult.

Suggestions.—(1) *First of all, the teacher's language should be good, grammatically correct, and worthy of imitation.* This is of vital importance. The teacher's conversations with the children, her remarks to classes and to the school, are so many continuous lessons in language; they are more effective than all other lessons.

(2) Next to this in importance is *the correction of any bad habits of speech which the children may have already acquired.*

This should be done in such a way as not to wound their sensibilities, or to give the impression that the teacher takes pleasure in criticising them.

(3) In recitations and in all formal school exercises *be sure that a child has clear and distinct ideas before he tries to express them.* The expression of an idea or thought can never, unless by some mere chance, be clearer or more distinct than the idea or thought as represented in the mind. Confusion of language necessarily follows confusion of thought. An object seen indistinctly can be described only vaguely. A child should not be allowed to describe an object of perception until he has observed it so fully and carefully that he knows exactly what he wishes and intends to say. The same requirement should be made when questions are put which call for the mental act of representation. This requirement will interfere a little at first with the liveliness of a recitation or other exercises, but in the end progress will be more rapid.

Imperfect representation and its causes.—During the early period of the representative stage of a child's school life there is great danger of confusion of ideas in his mind, and of consequent incorrectness in the use of words. A story is told, or a narrative is read, and the pupil is required to reproduce the story or the narrative in his own language. Failure in the reproduction may result from the fact that the language used in telling the story is not understood by the child. In this case the pupil can form no mental pictures, because the words suggest nothing. Consequently he has nothing to reproduce.

Failure to reproduce may have another cause. The pupil may understand the language employed and may form correct ideas, but his vocabulary, aside from the words used by the teacher in telling the story, may be so limited that he is unable to express these ideas correctly in other words of his own selection.

(4) Consequently at this stage of school life a teacher should take great care *that right words be taught to children as they are needed by them.* Every new object or idea calls for a new word. The word will be easily remembered if it is taught in connection with that of which it is the sign; the natural order is "*things and words.*"

Words to be taught.—The words taught to young children should be short, plain, every-day words, readily understood and easy of utterance. Train scholars to use just enough words to express their ideas clearly and fully, but no more than are needed to do this. In this matter the teacher should afford an example worthy of imitation. Do not fall into the habit of "talking much and saying little."

Technical terms.—The general rule as to the selection of short, simple, every-day words for the use of children, should

not be pressed to an unreasonable extreme. It is not necessary, nor is it desirable, to avoid the use of all technical terms in early instruction. Such terms should not be employed unnecessarily, or too freely, but there is no sufficient reason for excluding them entirely. Oral and all early teaching should prepare pupils to use text-books. Some previous knowledge of language of books will help the pupil greatly when he commences to use them.

(5) *Finally, give young children much practice in the use of correct forms of expression.*

The end to be reached.—The end desired is the formation of a habit of employing good language. Habit is formed only by long-continued practice. Sentences properly arranged must be spoken over and over again, must be written repeatedly, until the sounds and forms become so familiar that the tongue utters them and the fingers write them almost automatically. Training in this matter should begin in the lowest classes and should be continued systematically through all the primary grades.

SUMMARY OF CHAPTER V.

1. Each period of development has its own peculiar forms of mental activity.
2. Subordinate or special laws of mind and of teaching.
3. First special law of mind and corresponding law of teaching.
4. Some maxims applicable to the early period of school life.
5. One leading purpose at this time.
6. What object teaching is, and what objective teaching is.
7. Use of object lessons.

8. Bad object lessons.
9. How children should be taught to observe.
10. Effect of good object teaching.
11. Some questions as to observing.
12. Examples of concrete lessons in arithmetic.
13. Concrete spelling lessons.
14. To what stage of learning the second part of the first law applies.
15. Order of progress in each stage.
16. Illustration from work in reading.
17. Order in language lessons.
18. Different modes of expression.
19. When representation commences.
20. Second special law of mind, and of teaching.
21. Third special law of mind, and of teaching.
22. Applications of these laws.
23. How a child probably forms his earliest ideas of classes of objects.
24. Induction defined, and examples.
25. Induction in arithmetic.
26. Processes before reasons, etc.
27. Deduction defined and illustrated.
28. Both methods constantly employed.
29. Language before grammar. Importance of training in language.
30. Suggestions for elementary training in language.
31. Causes of imperfect representation on the part of young children, and of imperfect reproduction.
32. Kind of words to be taught. Technical terms.

CHAPTER VI.

SUGGESTIVE APPLICATIONS OF LAWS OF MIND.

Previous applications of laws.—In previous chapters applications of some laws of mind to the teaching of several elementary studies were indicated as fully as space would permit. These examples were designed to suggest how teachers may make applications of these laws for themselves. It is better for teachers to do this than to imitate and follow altogether models given by others. No one can become eminently successful in teaching unless she does something more than merely strive to imitate another teacher. Every person has, or should have, some individuality. *The highest success will be obtained by first mastering principles and laws and then applying these according to one's own individual peculiarities, habits of thought, and modes of action.* One never acquires freedom of movement or a graceful gait by trying to walk exactly in the footsteps of another, however easy and graceful the movement and gait of that other may be. Seek to improve and make the most of *yourself*, but do not make an effort to become *somebody else.* Success is not in that direction.

Other applications.—For the benefit of inexperienced teachers a few additional applications of laws of mind and teaching are given here, simply to indicate the general character of such applications, and some things which must be considered in making them.

First thing.—First of all, before commencing to teach any subject, *determine exactly what you propose to do, the end*

which you expect to reach, and fix in your own mind clearly and in regular order the successive steps by which that end is to be reached. Unless this is done you will work at random, wasting your own time and also that of your pupils. In determining what is to be done, or what should be attempted, the age and degree of development and intelligence of scholars must be taken into account. The maxim, "from the known to the unknown," should be kept in mind, because the present knowledge of the child must be the starting point in the effort to lead him to acquire that which is now the unknown.

Second thing.—Having done this, next *state to yourself distinctly the laws of mind and of teaching which are to guide you in the work, and are to determine the particular methods to be employed.*

The *general* laws will always be applicable, and are to be kept in mind in all cases. Some whole is to be presented, although it may be only a small part of some greater whole. The processes of thinking, by which knowledge is rendered clear and definite, must be regarded and provided for; and the laws of association must be constantly employed so as to render retention and reproduction sure and easy.

Special laws to be determined.—What needs to be determined, therefore, is, what *special* or subordinate laws of mind and of teaching apply to the matter in hand. In order to determine this, it is necessary to consider the age and degree of intelligence of pupils; whether they are in the primary or in a more advanced stage of development; whether they have or have not some knowledge of subject to be presented.

An illustration.—For an illustration let us apply these suggestions to the teaching of

CIVIL GOVERNMENT.

The end or purpose.—Suppose the pupils to belong to a district school or to some of the intermediate grades of a larger school. What is the end or object to be attained? Let us agree that the purpose is this: *To enable the scholars to obtain a good degree of what may be called practical knowledge of our local, state, and national governments.* It is not the intention to teach, except incidentally and to a very limited extent, theories of governnment, or the principles upon which the various forms of government are founded.

The laws.—What laws of mind and of teaching will guide us in the work? and when shall we commence? The most important of the laws are these: In teaching young pupils, *begin with the concrete; begin with particular and specific cases; begin with the known, that is, with that which is near at hand; begin with that which will most naturally create interest and secure attention; proceed, as far as possible, inductively.* If these laws are regarded it will be easy to decide where and how to commence.

In district schools.—Suppose one is teaching in a district school, and that a school meeting has just been held, or is to be held soon, in which officers of the district are elected and other business is transacted. In this case begin instruction with the school district. We have here a concrete, specific example near at hand, and adapted, if properly presented, to excite interest and secure attention. Incidentally the nature of *democratic government*, a government in which all the people take part, can be shown; and also the nature of *representative government*, since the school board act for and in behalf of the people, and thus represent them. Instruction is

supposed to be oral. Do not hasten; take points one by one; state questions clearly, and allow pupils to find out things for themselves, as far as possible, by inquiring of their parents and other persons. In this way the organization of the district, its officers, the time and mode of their election, their duties as individuals and as a board can be taught so that the knowledge will be of practical value to the pupils and will be easily retained.

In village or city.—If one is teaching in a village or in a city it will be natural to commence with the organization and government of the village or city, following the method indicated for the study of the district.

The township, county, etc.—The transition from the district to the township can be readily made by inquiring about the boundaries of the district, and by whom these boundaries are fixed. These inquiries bring us to the township board of school inspectors and to the township organization.

The officers of the township and their duties may be studied in the manner suggested for the study of the district. Additional interest will be excited if the township is studied near the time of the election of officers.

From the township the passage will be easy to the county, and then to the state, and finally to the United States.

If the government of the state is studied near the time of a state election it will be easy to give information in relation to the caucus, to the county and state conventions, and the business and management of these meetings.

Law making, etc.—It will be an excellent time to study the Legislature when that body is in session. The whole

process of law making can then be illustrated by reference to the proceedings of the Legislature. The progress of some bill, in which pupils may be interested, can be traced from its first introduction to its final passage, every step being carefully indicated from day to day.

United States government.—The approach of a presidential election affords a most favorable opportunity for studying the government of the United States, since the election of members of Congress takes place at the same time. The election of United States senators should be studied, if possible, in connection with a meeting of the State Legislature when the election of a senator takes place. This method makes the instruction as nearly concrete as it can be made unless pupils are able to be present at district, township, and other similar meetings.

Method with advanced classes.—With classes of advanced pupils it will sometimes be wise to employ a different method, based upon such laws as these: *commence with the largest possible whole, and go from the whole to its parts; begin with the abstract, with general principles, with definitions; with advanced pupils employ deduction.* In this case, present first a general outline and then study its various parts, going into details as fully as circumstances permit. Begin with a definition of government with all necessary illustrations; next define the various kinds of government, such as civil, military, monarchical, republican, representative, national, state, school, family. Then, taking the government of the United States, proceed to study one by one the different departments. From the national come to the state government, following the same general plan; finally proceed to the county and the

township. Where text-books are used this method will usually be employed. It will, however, be profitable to use the concrete method, to some extent, even in the most advanced grades.

HISTORY OF THE UNITED STATES.

It may be of advantage to suggest briefly what some of the laws of mind and of teaching indicate as to instruction in the subject of United States history to pupils in district schools, and in the lower grades of larger schools. The work is necessarily elementary in its character, and methods adapted to advanced classes are not appropriate here. Introductory outlines and synopses are out of place. The whole of children, at this period, is a single event or a short series of closely related events; the adventures of one man, or of a single body of men.

In the end, by a natural process of induction and arrangement, many events may be grouped together and the relation of these events to each other may be discovered.

Object to be attained.—The object may be stated thus: *To enable pupils to gain and retain a knowledge of the most important events in the history of the country.* This will necessarily include a knowledge of the leading men who have acted in those events; a knowledge of discoveries and inventions in the arts and sciences; of improvements in means of travel and transportation, and of the general progress of the country in all directions. It will not include the details of all the early voyages of discovery, nor all the incidents of the French and Indian wars, nor all the marches and countermarches of armies in any of our wars. The unimportant and unessential must be omitted.

Laws applicable.—Most of the laws named as applicable in teaching civil government will apply equally well in teaching the history. The concrete will be of a different sort, and more emphasis must be put upon the law that *young children seek to learn facts, events, processes; and so on, before they care to study causes, reasons, relations, and consequences.*

First lessons in history.—The first lessons in history should be taught in connection with the elementary study of local geography. When a place is studied, anecdotes of men and events connected with the place should be related in a brief, animated and interesting way, by the teacher or by some pupil. Topics of various kinds may be assigned beforehand to individual members of a class, and references may be given to books in which matter can be found. Progress in geography may seem to be less rapid, but real progress in knowledge will be much more rapid, and that which is learned will be retained by the natural law of association, that is, by the law of contiguity; places, events, and persons being all linked together in the mind. Men and events connected with many places are so numerous that selections must be made according to circumstances, or according to the taste of the teacher. The story of Wolfe and Montcalm may be associated with Quebec; of John Smith and Pocahontas with the James river; of De Soto with the lower Mississippi; of Pere Marquette with the Great Lakes; of the Conspiracy of Pontiac with Detroit. The only difficulty will be in making wise selections from the abundance of material.

More formal lessons.—The next and more formal lessons in history for children should consist, very largely, of anecdotes, of short stories of events and places, and of brief

biographies of distinguished men. These must not be taken at random, but in some regular and chronological order, so they may finally be connected into a continuous series. This order need not necessarily be stated to the pupils at the outset, but should be very clear in the teacher's mind. The method of working with a class must be adapted to circumstances. If books are abundant, the members of a class may be required to read for themselves and to relate, either orally or in writing, the substance of what they have read. The teacher will then indicate the important portions of the stories which are to be fastened in the memory. If books are scarce, the teacher will read or relate the story, or appoint some good reader among the pupils to read, while the other members of the class listen and afterwards write out as much of the matter as they can recall, being guided by the teacher so that they will reproduce the essential parts. If a text-book is used, this work can be carried along in connection with lessons assigned from the book. This leads to a remark which may be next akin to educational treason: *with a live and thoroughly prepared teacher the more different good text-books in the history class the better for the class.*

The lessons, of course, are assigned topically, and each pupil learns and states what his book contains upon a topic. In this way the whole class can have the substance of what all the books contain. When any topic has been fully studied the teacher should make a summary of the important points which pupils can copy in note books. At the end of the term of study these note books will furnish the connected substance of the history, and will serve as means for review.

Advanced teaching.—As in teaching civil government so in

teaching history; the laws of mind indicate that the class may commence by learning a general outline. This outline serves in the history the purpose which the outline map serves in geography. This method is so familiar that it is unnecessary to describe it further.

These examples are sufficient to illustrate the applications which teachers may make for themselves of both the general and special laws of mind and teaching.

SUMMARY OF CHAPTER VI.

1. Previous applications of laws of mind.
2. How the highest success will be attained by a teacher.
3. First thing to be determined before commencing any subject.
4. Second thing to be distinctly stated.
5. What as to *general* laws.
6. What as to *special* laws.
7. The illustration of civil government.
8. The end or purpose in this case.
9. The guiding laws or principles.
10. How begin and proceed in a district school.
11. How begin in a village or city.
12. How interest may be increased.
13. When law-making may be best studied.
14. When the government of the United States may be best studied.
15. Method with advanced classes.
16. Laws applied to teaching United States history.
17. Object to be obtained with elementary classes.
18. Law specially applicable.
19. First lessons in history.
20. More formal lessons.

21. Method of working in a class.
22. As to text-books.
23. Method with advanced classes.
24. Use of these illustrations.

CHAPTER VII.

MORAL DEVELOPMENT, INSTRUCTION AND TRAINING.

The moral nature.—For our purpose it will be sufficiently definite to consider the moral nature as *that in man which concerns itself about questions of right and wrong.* It makes such inquiries as these: Ought a child to obey his parents? ought parents to care for, to protect, to educate their children? ought scholars to be obedient to the rules of a school? ought a teacher to labor earnestly for the highest good of his pupils? ought a man to be honest in business? is it ever right to lie, to cheat, to take advantage of another man's ignorance in a trade? These and many other similar questions men are constantly asking themselves. Children begin to ask such questions at a very early period in their lives.

Idea of right.—The fact that such inquiries are made by all sorts of people in all parts of the world, seems to prove that human beings everywhere have an idea that there is such a thing as right and such a thing as wrong. This idea is probably intuitive in the soul; that is, it springs up spontaneously in the mind as soon as a child is old enough to think with some degree of clearness, to act with reference to some end, to observe the conduct of others, and to understand, in some measure, the consequences of his own conduct and of

the conduct of those about him. The child's earliest notions of right and wrong are, without doubt, very crude and ill-defined. Gradually, if properly instructed and trained, he comes to have more definite ideas, and begins to feel that he ought to do one thing in preference to another, and that he may properly be blamed for one sort of conduct and praised for a different sort. In other words he begins to comprehend the fact that there is some rule or law concerning behavior, and that his conduct should conform to this law.

Moral law.—At this stage of development the child has a dim and confused notion of what we call moral law; which, for our present purpose, may be defined as *a collection of principles and rules for the regulation of the conduct of human beings in all the various relations of life.* The most important and essential of these principles are very nearly, if not quite, axioms or self evident truths. Men everywhere admit them to be true, even though they disregard them in their manner of living.

First principle.—One of these principles may be stated thus: *Give to every man his due, or render to every man his right.* This requires us to give to every human being that which belongs to him; honor to whom honor is due; obedience to whom obedience is due: respect to whom respect is due; courtesy, kindness, protection, good-will, love, to whom these are due. This law touches all the ordinary relations in the family, in the school, in society, in business, in the state. It is broad enough to regulate to a large extent the conduct of children, of parents, of scholars, of teachers, and of men and women in all social, business, and other relations. This law asks only justice; it is the basis of human society. Without

some tolerable regard for it men could not associate together. Nobody will object to teaching this principle in the public schools, or in any other place.

Second principle.—Another of these laws may be embodied in this language: "*Do unto others as you would have them do unto you*" in like conditions and circumstances. In other words, put yourself in another's place and consider how you would wish to be treated in that place. This rule carries one far beyond the requirements of simple justice. It bids us do good to all men as far as we are able; to forgive those who have wronged us; to have compassion on the suffering; to pity the weak and erring; to help those who need help even though they have no claims upon us; in a word, to do all in our power to make others better and to render them happier.

Law of beneficence.—This is the law of beneficence and good-will, applied once by a Samaritan to an unfortunate individual belonging to a race which despised and hated him. Fully recognized, it forbids us to render evil for evil; to return a harsh word for one which we have received; "to give" a bad man or boy "as good as he has sent," or "pay him back in his own coin." This does not forbid the using of proper measures in self defense, nor the infliction of proper chastisement upon any overbearing "bully" who recognizes no authority unless it is backed by brute force, and respects only what he fears.

How much embraced.—These two principles embrace the whole moral law so far as it applies to human relations. They teach justice, benevolence, mercy, and forgiveness. Obedience to them would make the family, the school, society

generally and the state what they should be; would render men honest, truthful, upright, honorable, and manly in the highest sense of that word.

Purpose of moral instruction and training.—*The purpose of moral instruction and training is to lead children to act constantly and uniformly in harmony with these laws.* They will thus be made obedient to rightful authority in the home, in the school, and in the state. They will be taught truthfulness in word and in deed, honesty in business and in pleasure, purity in heart and in life, integrity in both private and public affairs. The natural tendency of such instruction and training must be to send out from the schools good men and women, and to secure for the state good and reliable citizens.

What the child must have.—In order to secure the proposed end *the child must have* (1) *the necessary knowledge*; that is, he must be taught what he ought to do and how he ought to conduct himself; (2) *he must have a right disposition*: that is, in some way, there must be produced in his mind the desire to do what he ought to do and to conduct himself in the right way. In connection with the production of this knowledge and this disposition in the child (3) he needs to acquire, by continued practice, a permanent habit of right doing, so that good conduct shall become easy because it has become habitual. Practically the knowledge, the disposition, and the habit will be secured for the child at the same time and by the same process of instruction and training.

How give instruction.—The necessary *instruction* as to right conduct can be given very easily by any teacher who thoroughly understands the principles of justice, beneficence, and mercy, and who earnestly desires to impress these upon

the minds of his pupils. It must be remembered, in dealing with young children, that they are not yet able to comprehend *abstract principles or abstract teaching.* It would serve no good purpose to begin by telling them that they ought to be just and to act justly; or that they should be beneficent and act beneficently; or that they should be merciful, and should deal mercifully with their associates. Such instruction may be appropriate in the high school, but not in the lower grades. *The teaching here must be concrete.* Justice and beneficence must be embodied and taught by means of living examples. Mercy and forgiveness must be presented in actual every-day life where they can be seen.

First means.—Consequently, (1) *first and most important of all, the teacher must teach the principles of right conduct by example,* by his own daily living before his pupils. He must be a concrete illustration of justice and mercy, of beneficence and forgiveness. He must himself be just in word and deed in all his relations with school officers, with parents, and with scholars. He will teach beneficence most effectively by his own beneficent acts and his own kind words. He will teach purity best by being pure in heart, pure in life and pure in language. He will teach honor by being honorable in all his dealings, and patience and forbearance by being patient and forbearing under circumstances naturally adapted to irritate and provoke.

Unconscious tuition.—This is unconscious tuition, which has been so beautifully described and illustrated by Dr. Huntington in an address which every teacher should read at least once a year. No other teaching can take the place of this, and no person is "qualified," in the best and highest sense of

the word, for a place in the schoolroom, whose character and life do not teach the principles of justice and righteousness. Neither intellectual power nor brilliant scholarship can atone for bad moral principles and bad moral conduct and habits.

Second means.—(2) Next to the teacher's own character, the best means of impressing moral lessons upon children are examples found in the conduct of associates and of others with whom pupils are personally acquainted. This is also concrete teaching. Such examples must be selected and employed with great care and skill, and in such a way as not to give offense or to excite ill-will. *It will, when this can be done, be better to use an example which can be held up as worthy of imitation rather then one worthy of censure and blame.* This is preferable for many reasons which will readily occur to any teacher, but there is a psychological reason which is often overlooked. States of mind repeat themselves. A feeling excited in the child's mind today can be excited more easily tomorrow, and still more easily the third time. Every repetition increases the tendency of the mind to indulge the feeling until, by and by, it becomes habitual. It is, consequently, better for the child's character to excite feelings of kindness and good-will rather than those of unkindness and ill-will. It may be urged that it will be a good thing to cultivate in a child the feeling of indignation against injustice and all wrong-doing. This is true after the child has reached a certain stage of development; but it should be remembered that feeling in the young child is always directed towards the actor rather than the act, towards individuals rather than classes.

Third means.—(3) Further opportunities for giving moral

instruction can be found in connection with examples and illustrations afforded by some of the selections in school readers, by anecdotes and other articles in newspapers and periodicals, and by many of the lessons in history.

With advanced pupils.—(4) To advanced students more definite and formal statements of moral principles should be made, with applications of these to the conduct of everyday life. Care must be taken that such statements are presented at proper times and under favorable conditions, and not in the form of regular lessons or lectures at appointed hours.

The most difficult work.—*The most difficult part of the teacher's work is to create or cause to be produced in the child's mind a disposition to do right, when he has learned what the right is, and to render this disposition permanent so that finally good conduct will become habitual.* This is the end towards which effort should be directed.

Upon what disposition depends.—The disposition depends upon the feelings which control the action of the will. Behind every determination of the will is some desire. The child is disposed to do what he wishes or desires to do. The problem, therefore, is to produce the right desire; or if, as is often the case, there are opposing and conflicting desires, to give predominance to the better ones. *Anything which produces or tends to produce desire, and thus to move the will, may be called a motive.* The practical questions for a teacher are, what motives shall I use, and how shall I use them to the best advantage? Only brief consideration can be given to these questions here, but every teacher should study them thoroughly.

Desire and good.—Desire has been defined as the craving of the mind for some real or supposed good. The term good is used to denote anything which will give gratification, pleasure, enjoyment or satisfaction of some kind. The good of one person may not be the good of another; the good of the child will not be the good of the man. *The good to be presented, that is, the motive, must be adapted to the age of the person, to his degree of development and culture, and to circumstances.* The good held up before a young child must be something near at hand, something which appeals to the senses, and to the simple emotions and affections, something which he can comprehend and appreciate. The far-off has little power to influence childhood.

High and low motives.—The motive in each case may be considered low or high according to the character of the pleasure and satisfaction which the object presented is adapted to afford. The pleasure may be of the body or of the soul, may be immediate or prospective, may be temporary or lasting in its nature, may relate entirely to one's self or may concern others. *The effort should be, in all cases, to employ the highest possible motive;* that is. the motive which will excite the best, noblest, and purest desires. As early as possible motives should be employed which will lead the child to have regard for others rather than for himself.

Classes of motives.—Motives may be divided, for convenience, into a few classes; and in each class they may be arranged in an ascending series adapted to the progressive stages and steps of mental and moral development.

Lowest class.—(1) The first and lowest motive which influences the child is probably the pleasure arising from the

gratification of the natural appetites. The parent makes more or less use of this motive, but it can have little place in school. In more advanced periods of life this motive is reinforced by the pleasure derived from the gratification of the passions and artificial appetites. This motive keeps man on a level with the brutes.

Approval, etc.—(2) The satisfaction resulting from being approved, praised, esteemed, and commended is a powerful motive in childhood, and indeed during the whole life. The child values the approval of parents, teachers, associates, etc. When more developed, he values most of all the approval of his own conscience and of the Divine Being.

Activity, etc.—(3) The pleasure and satisfaction derived from the proper exercise of one's own powers constitute a very strong motive in every period of life. Appropriate exercise of body gives positive pleasure to the child. Mental exercise affords still higher satisfaction. Probably the highest enjoyment of which man is susceptible comes from the right exercise of his highest and noblest powers.

Possession, etc.—(4) The satisfaction resulting from possession is also a powerful motive, operating sometimes in the direction of good, sometimes in the direction of evil. This general motive embraces a great number of particular cases, such as the possession of knowledge, of property, of power, of rank, of esteem, and many others. Prizes and rewards appeal to this principle.

Select motives.—From these various classes such motives should be selected in the school as are adapted to the different pupils. Always select the highest one which can be made effective.

Lowest motive.—The lowest motive to which the teacher can appeal is the desire for present personal bodily gratification and pleasures. Corporal punishment appeals to this motive by exciting fear of pain.

Highest motive.—The highest motive is the desire to do right because it is right. This is duty in the best sense of the word. This involves the desire for the approval of one's own conscience and the approval of God.

Character.—The final result of moral development, instruction, and training in the school should be the production of the highest type of character in the pupils, character being the sum of the dispositions which have been created in the mind, and of the habits which manifest themselves in conduct.

SUMMARY OF CHAPTER VII.

1. The moral nature defined.
2. What questions are asked?
3. Idea of right and wrong universal.
4. A child's early ideas of right and wrong.
5. What moral law is.
6. The two general principles stated.
7. What the principle of justice includes.
8. What the principle of beneficence includes.
9. The purpose of moral instruction and training.
10. The things which the child must have.
11. How *instruction* may be given.
12. Why abstract principles should not be taught to young children.
13. The means which can be used in moral teaching.
14. What the teacher should be.
15. Unconscious tuition.
16. What sort of examples should be used and why?
17. What may be done for advanced students?
18. The most difficult part of the work.
19. Upon what disposition depends.
20. What a motive is.
21. Desire and good defined.

22. High and low motives.
23. Rule for the selection of motives.
24. First class of motives; second class; third class; fourth class.
25. The lowest motive; the highest motive.
26. What the final result of moral development, instruction and training should be.
27. Character defined.

CHAPTER VIII.

PRACTICAL STUDY OF CHILDREN.

Importance of child study.—In chapter III the general order of development in the child and the mental activities which characterize each period of his progress were briefly considered. A few remarks and suggestions in relation to the special study of children will be added here. Every one will admit that it is as important that the teacher should understand thoroughly the nature of the child as it is that the market gardener should be acquainted with the nature of vegetables, or the florist with the nature of flowers, or the breeder of stock with the nature of cattle and horses.

Not a new thing.—It would be a great mistake to suppose that the study of children is a new thing, just recently discovered or invented. Parents and others have been observing and studying children ever since there were children to be loved and cared for. The chief differences between the old study and the new are that the present study is more general, aims to be more thorough and systematic, and is carried on with the hope and purpose of making it of practical use in the family and in the school.

General child nature.—In order not to waste time in trying to find out what everybody knows already, it should be kept in mind, at the outset, that there is what may be called a general or average child nature. That is, children, with a few abnormal exceptions, are essentially alike in many respects. Children generally cry when they are hurt and smile when they are pleased; they all have natural curiosity about something; they are delighted with bright colors and "cunning" things; they like to handle objects, and are influenced by that which is near at hand. It will not be necessary to make observations or experiments to find out matters of this sort. Parents and teachers generally are well acquainted with these.

Individual child nature.—But there is also what we may call special child nature or character. That is, every child has a nature or character peculiar, in some respects, to himself, and differing from that of all other children.

What the teacher needs to study.—It is the special, peculiar, and individual child nature which teachers need to observe, and to study with the greatest care and patience. In other words, teachers should study the nature and peculiarities, as far as possible, of each individual child in their schools.

Done more easily in elementary grades.—This can be done more easily, and is of more importance, in the elementary schools, than in the higher grades. The reason is obvious upon a moment's reflection. Young children, fresh from their homes and entering school for the first time, bring all their peculiarities with them. As a rule, they are just what they appear to be; they have not learned to conceal their thoughts, their feelings, their dispositions, or their habits. It is, there-

fore, comparatively easy to discover their native or acquired peculiarities.

Process of assimilation.—After children have been in school several years their native or acquired peculiarities usually become less observable. By associating with one another a process of assimilation has been going on unconsciously. The influence of teachers and of the school, as a whole, have caused some of the most prominent individual traits to disappear, at least partially, and have led to the concealment, to some extent, of others. The pupils are more alike than they were in the lower grades. Consequently it will be more difficult to learn the real nature and character of each individual scholar. But, none the less, individuals should be carefully studied in all grades and their peculiarities taken into account in dealing with them.

Study the whole child.—The whole child is to be studied; that is, the body as well as the mind. The reason for this is, that mental peculiarities and manifestations are often directly influenced or produced by physical peculiarities and conditions, and cannot be understood or explained except by reference to these. For example, a child may appear inattentive or stupid in a class because he cannot see well or hear distinctly. He may be fretful or ill-tempered because he is suffering bodily discomfort or pain. He may seem obstinate or disobedient simply because he fails, from some physical defect, to understand a direction or request.

Not kept distinct.—The observation and study of the physical and mental peculiarities must necessarily go on together, to a considerable extent, since they are so closely connected.

But it will be convenient here to speak of the two separately as far as possible.

Where to begin.—All effective teaching must begin with what the child already knows. Hence the first work of the teacher, when children are placed in her charge, is to ascertain what they know, or to take a sort of inventory of the "contents" of their minds. This inventory will indicate the starting point, and the direction which the teaching should take.

How learn the contents of children's minds.—It will not be necessary to examine children, who are entering school for the first time, to find out the contents of their minds, or to question them very much. Young children can know little else than what they have seen and heard. Their minds can contain only what they have received through their senses from their previous surroundings.

Study the environment.—The first thing to be done is to ascertain the home environment of each child as fully as possible. Where has the child lived? in the city or in the country? in the village or on a farm? Have the surroundings been agreeable or disagreeable? What of the home? and the members of the family? and the immediate neighborhood? All these and many other questions will suggest themselves during the study of environment. And the answers to them will give all needed information as to the contents of a child's mind, and the general character of his knowledge. It will be easy to discover where and how the work of teaching should begin.

Study of heredity.—The environment of the child, of course, includes his parents and all other members of the household. But the importance of what is called heredity is so great that

it will be especially desirable to become acquainted with the peculiarities of the family and the general characteristics of parents and other near relatives. Children do not in all cases closely resemble their parents either in body or mind; but usually the father or mother, or some more remote ancestor reappears, perhaps somewhat modified, in the child. If the child resembles the father or the mother in the color of the hair and eyes, in features and complexion, in general appearance and manner of walking, in tones of voice and other bodily peculiarities, may we not expect a likeness in mental and moral characteristics? in disposition, temper, tastes, and appetites?

Previous training.—In addition to a general knowledge of surroundings and of possible inherited characteristics, it is desirable to learn as much as one can by proper means, of the training which the child has been having in the home. Has he been accustomed to steady and uniform modes of management? Has he been controlled simply by force? or have appeals been made to his sense of justice and propriety? to his judgment and reason? Has he been trained to something of self-control and self-restraint? of courtesy, politeness, and regard for the interests and comfort of others? Has his moral nature been properly developed and trained so that he recognizes the rights of others, and his own duty to regard these rights? Is he truthful and honest according to the reasonable standard of childhood? These and other similar inquiries will come up to be gradually answered as information can be obtained.

Study of children themselves.—So far our study has not been of the children directly, but of the conditions and influences

which have been at work to make them what they are. Having ascertained something of the forces which have been molding and fashioning them, we can judge with considerable accuracy and certainty of the probable result. We have thus obtained a good deal of valuable knowledge of our children, but it has taken some time to get it. Meanwhile the children have been before us, and we have been making more immediate and personal acquaintance with them.

Study of the senses.—The intimate connection between the body and the mind has already been referred to. The senses, especially the senses of sight and hearing, are the means by which the mind comes into connection with the world of material things and gets all its early impressions. The first learning of the child is through the senses; the first teaching must be addressed to the senses. If the organs of the senses are defective the child is put at great disadvantage. The teacher should, therefore, at the very beginning of her work, seek to discover whether any of the children have defective ears or eyes; while the other senses are important, they are, comparatively, of less importance in the school room.

The hearing.—Careful observations and experiments have proved that, in almost every school, some of the pupils have defective hearing, in one or both ears. In many cases neither the parents nor the children are aware of such defect. If the defect is serious the unfortunate child appears listless and inattentive, and is pronounced dull and stupid. Whenever a pupil seems to be thus inattentive and dull the hearing should be specially and immediately tested. A whole class, or the whole school, can be easily tested in a general way, with very little trouble. The simplest method is to dictate, in an ordi-

nary tone, figures, letters, words, or sentences to be written. The children being seated so that all have an equally favorable chance to hear. Notice those pupils who appear to make an extra effort to hear, or who ask to have the matter repeated in a louder tone. Of such make a more careful examination, testing each ear separately.

Another and more thorough method of examination is by the use of a watch, a stop-watch if one can be readily obtained. Seat the pupil blindfolded and put a little soft cotton in the ear not being tested. Hold the watch on a level with the ear at a distance of about twenty-five feet and carry it slowly toward the ear, noticing carefully the point at which the pupil begins to hear the ticking. Use the same watch in testing all the children, since watches differ considerably in the loudness of their ticking. These tests only show the relative quickness of the hearing of different pupils, but they are usually sufficient for practical purposes. Children whose ears are found defective should be seated in positions favorable for hearing both the teacher and members of the class when reciting. Care also should be taken that such children do not sit where currents of cold air will fall upon their heads, as a cold in the head will usually increase the deafness.

The seeing.—Defective eyes are more common than defective ears, and the school is more likely to injure the eye than the ear. Teachers should, consequently, take especial pains to care for the eyes of their pupils, and should make simple tests whenever they have reason to suspect defects of sight. Teachers will not always be able to determine just what the defect is, but they can report to parents the existence of some defect which requires immediate attention. They can readily

discover myopia, or near-sightedness, by very simple tests, and can, to some extent, relieve pupils of the disadvantages under which they labor in their school work from this defect.

Testing.—Write, in letters of ordinary size, figures, words, or sentences on the blackboard and ascertain whether any pupils find difficulty in seeing them distinctly from their desks or from the recitation seats, without extra effort. Near-sighted children should be seated in the most favorable positions for seeing, and should not be allowed to strain the muscles of their eyes in efforts to see at too great distance. Cards prepared especially for testing the sight can be obtained at very slight expense. Directions for using them will be given on the cards. If these can not be had conveniently the teacher can prepare cards for herself by writing letters of different sizes on them. In testing let the child move *toward* the card and note the point where the letters are seen distinctly. Test both eyes together and afterwards each eye separately, holding something over the eye which is not being tested.

Various other possible defects of the eyes, among these astigmatism, can not be well tested by the ordinary teacher. Many of the "school headaches" and other nervous disorders are caused by these defects. Whenever there is reason to suspect defects of vision report the case at once to parents that examination may be made by some competent person.

Study of mental characteristics—Temperaments.—We take first those mental characteristics which are apparently most closely related to bodily organization or conditions. Among these are temperaments, which may be described briefly as peculiar types of mental character associated usually with certain peculiarities of body, such as the shape of the head,

the complexion, the color of the hair and eyes, and so on. These physical characteristics are frequently inherited and consequently the temperaments may be said to be inherited also. Most writers speak of four temperaments, but as clearly marked specimens of these four are not often found, it will be sufficient to group pupils, in respect to temperaments, into two classes, one of which may be called the sanguine, nervous, or active; the other the lymphatic, slow, or passive. Of some pupils it will be difficult to say to which class they belong; this is especially true of children just entering upon the period of pubescence.

Children of the first class are ready and prompt to act, often restless and uneasy, quick to speak and to respond to external stimuli. In many cases they speak and act before thinking carefully. They are energetic, impulsive and hopeful. Such children must have opportunities to work off their superabundant nervous energy in proper ways, and need to be wisely restrained and checked in their tendencies to impulsive and hasty action.

Children of the second class are generally slow and deliberate in movement, do not respond quickly to external stimuli, think before speaking, and sometimes appear dull and devoid of interest. Such children need encouragement, judicious stimulation, and special training to habits of promptness both in physical and mental movements. They are frequently sensitive and easily wounded by unwise reproofs. Although groups have been spoken of here, remember that each child has his own peculiarities and should be studied and treated as an individual.

Disposition.—Disposition is a term used to denote a pre-

dominant tone or temper of mind; to some extent, it may depend upon temperament. While disposition is a native characteristic of mind, yet, unlike temperament, it may be greatly modified by training and environment. It may, in fact, be essentially changed by persistent and judicious effort. No child can be rightly and wisely managed until his disposition is pretty thoroughly understood. Dispositions are variously named, as open, frank, social, cheerful, or suspicious, reserved, gloomy, morose, sullen, and so on.

Different dispositions require very different treatment, and the wisdom of a teacher will be shown by her skill in adapting herself and her methods of management to the various dispositions of her pupils.

Moods.—Moods differ from dispositions in being usually temporary states or conditions of mind. They may be named by essentially the same terms employed in speaking of dispositions. If moods are indulged in pretty frequently so that they become habitual, they assume the character of acquired dispositions. They need to be studied as much as dispositions or temperaments. In many cases a mood is best treated by ignoring it; this is especially true of the morose, sullen and sulky moods, in which some children indulge with the hope of annoying a teacher. The best way is to leave such pupils severely alone; the mood will usually disappear if unnoticed.

The moral character.—One prime purpose of the school is to make good men and women, good citizens. Good citizenship depends quite as much upon character as upon knowledge; and character is a matter of growth and, to a large extent, of proper instruction and training. Consequently the teacher should study carefully the moral tendencies and habits

of pupils. Are children truthful, honest, trustworthy? are they courteous, kind, careful not to trespass upon the rights of others? Take great care not to accuse a child of falsehood or dishonesty or any other moral delinquency, unless you have evidence that he is really guilty. In doubtful cases it is better to trust a pupil and be cheated than to run the risk of doing injustice to an innocent child. In studying the moral character of pupils do not treat them as if you were suspicious of them. Assume that a child is honest and truthful until he has proved himself to be otherwise. Lying is not a universal characteristic of childhood. Children are neither angels nor demons; but merely partially developed human beings, full of the possibilities of good or evil. Child study should aid the teacher in the work of developing the good and eradicating the bad.

Interests and tastes.—Occasionally a child is found who appears to take no interest in any of the ordinary school studies; he is listless, puts forth no earnest effort, does not care whether he learns his lessons or not. Make an effort to discover something in which such a pupil will take an interest. Observe him out of school, on the play ground, on the street, in the home if possible. Study his tastes and habits; see what he does when left to himself. He may be fond of drawing or mechanical work; if so find something for him to do in those lines. Perhaps he has a taste for the study of plants, flowers, insects, animals, or something in nature. Keep on experimenting until the right thing is found. There may be in this child the material out of which a noble man can be made.

Study also to discover the peculiar interests, aptitudes, and tastes of all your pupils. While it may be necessary for every

scholar to do all the usual, ordinary school work, yet every pupil should be encouraged and helped to pursue those studies and to do that sort of work in which he has special interest and for which he seems particularly fitted, and in which he will be likely to excell.

Work with parents.—In the study of children, as in all other school work, seek to interest parents and to labor in harmony with them. As a rule parents are genuinely interested in everything which promises to be for the advantage of their children, and will gladly unite with teachers in efforts to make the school better and more attractive. They can, in many cases, be induced to study carefully the peculiarities of their own children, and thus become more intelligent in respect to their capacities, tastes, habits, and needs. They may be led to read books and periodicals, and, where circumstances are favorable, they may be encouraged to meet together occasionally for mutual consultation, and for study and conversation.

Descriptions of children.—It will be a good plan for a teacher to write out occasionally full descriptions of some individual children. These descriptions should be for her own use and benefit and should not be made public. The observations necessary to write such descriptions will bring a teacher into more complete sympathy with the children and will indicate methods of management and instruction better suited to their peculiarities. The following points may be taken as a basis for the written descriptions; other points will readily occur to intelligent observers.

1. Name, age, nativity.
2. Home environment and companionships.
3. Temperament, active or slow.

4. General personal appearance, dress, movements, facial expression, etc.

5. Any marked peculiarities of any kind, sensory defects, if any.

6. Favorite games and plays; habits of attention, regularity punctuality, etc.

7. Moral characteristics, disposition, moods, if any, etc.

8. Suggestions as to the best methods of management and reasons for these.

In case the observations extend over considerable time it will be useful to note any changes which take place in the character, habits, etc., and the probable causes for such changes.

SUMMARY OF CHAPTER VIII.

1. Importance of child study.
2. Not a new thing.
3. General child nature.
4. Individual child nature.
5. What the teacher should study.
6. Study easier in lower grades.
7. Process of assimilation.
8. The whole child to be studied.
9. Study of body and mind cannot be separated.
10. Where to begin.
11. How learn the contents of children's minds.
12. Study the environment.
13. Study of heredity.
14. Study previous training.
15. Study of children themselves.
16. Study of the senses.
17. The hearing.
18. The seeing.
19. Modes of testing.
20. Study of mental characteristics.—Temperaments.
21. Dispositions.—Moods.
22. The moral character.
23. Interests and tastes.
24. Work in connection with parents.
25. Descriptions of children.

QUESTIONS FOR REVIEW.

1. State the three questions which present themselves to one preparing for any work.
2. Why do we value a machine or a road?
3. What is the real work of a teacher?
4. What should the education of a child include?
5. What does development produce?
6. What does training produce?
7. What should instruction produce?
8. Give Tate's definition of education?
9. What is Milton's definition?
10. Give the substance of Addison's statement.
11. What does Plato say of doing?
12. Name the different varieties of education.
13. What must one know in order to educate a child?
14. State the illustration of the trainer of horses.
15. Describe the nervous system and the different kinds of nerves.
16. State the kind of knowledge which each one of the senses gives us.
17. What is the mind?
18. What is consciousness?
19. State and illustrate the relation of consciousness and the senses.
20. Where does the process of education begin?
21. What is perception as an act? what as a power?
22. What is a percept? Give illustrations.
23. Explain how we get the ideas of space and time.
24. What is intuition?
25. Name and define the group of perceptive powers.
26. Give examples and illustrations of the process of representation.
27. Give examples of representation in the school.
28. What are concepts? How do they differ from percepts?
29. What is real representation?
30. What is ideal representation? Give illustrations.
31. Illustrate the use and work of imagination in the school.
32. Define memory.
33. State and illustrate how the memory recalls.
34. What are laws of association?
35. Name the primary laws.
36. Name the secondary laws.
37. Name and define the group of conceptive or representative powers.
38. What is thinking as here defined?

39. Define analysis, abstraction, and generalization.
40. What is general conception? What is a general concept?
41. What is the judgment? What is a proposition?
42. Give an example of a reasoning process.
43. Name and define the thinking powers.
44. Give a synopsis of the knowing powers.
45. What are bodily feelings? appetites?
46. Name the three classes of mental feelings and define them.
47. What is hope?
48. Why is a knowledge of the feelings important to a teacher?
49. What is the will? Give an illustration of an act of the will.
50. What is the order of the mental processes?
51. How can the teacher move or influence the will of a child?
52. What is a moral being?
53. Describe the moral nature; intuition; perception; judgment; conscience.
54. Why should conscience be always obeyed?
55. Name some of the moral feelings.
56. What are motives?
57. How can we increase or diminish the power of motives?
58. Are we free in our choosing?
59. Give the illustrations of development.
60. Explain the use of the term law.
61. Give the first law of development.
62. State the order in which the powers are developed.
63. What is the first inference from the first law?
64. Give the characteristics of each of the three periods of school life.
65. To what powers of mind must teaching be directed in each of these periods?
66. State the second inference from the first law.
67. State what the characteristics of each of the three classes of schools should be.
68. State the third inference from the first law.
69. Give the second law of development.
70. What is the teacher's business under this law?
71. State the inference from the second law.
72. What is the third law of development?
73. Give the first inference from the third law.
74. What is the second relation of knowledge to education?
75. What is teaching, and what is the teacher's work?

76. Who is the best teacher?
77. What is method? what are methods of teaching?
78. What determines methods of teaching?
79. Give the illustration of the scientist.
80. What does the real teacher do according to this illustration?
81. What is meant by *general* forms of mental activity? what by *special* forms?
82. What are the *general* laws of mind?
83. State the first general law of mind, and the corresponding law of teaching?
84. State the second law of mind, and the corresponding law of teaching.
85. How do the senses present knowledge? Give illustrations.
86. Give illustrations of the analytic process of the mind.
87. How is the child learning till he enters school?
88. What does Hamilton say of the work of elaboration?
89. What is the substance of the caution?
90. What methods of teaching elementary reading are mentioned? Which are synthetic and which analytic?
91. Explain the maxim, "Proceed from the known to the unknown."
92. What is the *known* to the child when beginning to learn to read? What is the *unknown?*
93. What is the work of the *first* step in teaching children to read?
94. Explain the *second* step.
95. What is the work of the *third* step?
96. Explain the method of teaching language lessons according to these laws.
97. Give the third law of mind, and the corresponding law of teaching.
98. What work this third law covers.
99. Upon what does the power of memory depend?
100. Upon what does the depth of the impression depend?
101. What illustration shows the effect of intense attention? what of repetition?
102. What are the suggestions in relation to attention?
103. What is the second matter considered in the training of the memory?
104. How can the different parts of a topic be best associated in the mind?
105. Give the illustration in respect to committing to memory a number of names.
106. What laws of association are used in teaching arithmetic?

107. What laws in teaching to read?
108. What laws in teaching geography?
109. What laws in teaching history?
110. Upon what does all valuable training of the memory depend?
111. State the fourth general law of mind, and the corresponding law of teaching.
112. Why can no definite rules be given as to the length of lessons?
113. What things must be taken into account in assigning lessons?
114. What is the prime condition of fruitful study?
115. What should be the aim of the student in his work? What the aim of the teacher?
116. What is said in relation to sleep?
117. What is the most important consideration in physical exercise?
118. What should be done in primary schools in respect to physical exercise? What in advanced grades?
119. Why should different kinds of studies alterate with one another?
120. What activities of mind are employed in studying mathematics?
121. What activities in studying the sciences? what in geography and history? what in reading and language?
122. What alternations of studies are suggested in a program?
123. What is meant by subordinate or special laws of mind? by special laws of teaching?
124. State the first special law of mind, and the corresponding law of teaching.
125. Name some "maxims" covered by this law.
126. What is one leading purpose of the teacher in this early period of school life.
127. How does the child learn at this time?
128. State the distinction between object teaching and objective teaching.
129. For what are object lessons valuable?
130. What are bad object lessons?
131. What are the characteristics of good observing?
132. What is it to develop and train the perceptive powers?
133. State some of the questions concerning the habit of observing.
134. Give examples of concrete questions in arithmetic.
135. Give examples of concrete spelling lessons.

136. Why should methods of teaching be changed only gradually?
137. What is the order of a child's progress in the first stage? what is the order in the second stage?
138. Illustrate the order in the second stage by reference to a reading lesson.
139. State the order in a language lesson.
140. Illustrate expression by other means than by words.
141. What evil results from using the object and objective method of teaching too long?
142. State the second special law of mind, and second special law of teaching.
143. State the third special law of mind, and of teaching.
144. How does the young child probably obtain his earliest ideas of classes of objects? Give an illustration.
145. Define induction. Give examples.
146. Give examples of induction in teaching arithmetic.
147. Why may young children be allowed to "do" things for which they cannot give reasons.
148. Define deduction. Give examples.
149. Are there purely inductive and purely deductive methods of teaching?
150. Next to training the senses, what is the most important work of the primary teacher?
151. State the suggestions in relation to teaching language to young children.
152. What kind of words should be taught to young children?
153. May technical terms be taught?
154. How only can a teacher become eminently successful?
155. What is the effect of imitation?
156. What should a teacher determine first before beginning any subject?
157. What next should be determined?
158. How far do *general* laws apply?
159. What is the purpose stated in teaching civil government to young pupils?
160. What laws are given?
161. Where begin and how proceed in a district school?
162. Where begin in a village or city?
163. At what time may the township government be best studied.
164. At what time the state government?
165. At what time the U. S. government?
166. Why best at these times?
167. State the method of teaching civil government in advanced classes.

168. Why should we not begin to teach history to children by using outlines?
169. State the object in teaching U. S. history to young children.
170. What laws of mind are applicable?
171. What law is especially applicable?
172. How should the first lessons in history be taught?
173. Give illustrations. What are the advantages of this method?
174. What are the more formal lessons?
175. What advantage in having a variety of text-books?
176. How may advanced classes be taught?
177. What is the purpose in giving these applications of mental laws and laws of teaching?
178. What is the moral nature?
179. What questions does it ask?
180. What is the origin of the idea of right?
181. What is moral law?
182. State the principle of justice.
183. Give some applications of this law.
184. What is the principle of beneficence?
185. Give some applications of this law.
186. State the purpose of moral instruction and training.
187. What knowledge must the child have?
188. What disposition? What must he acquire by practice?
189. State the different means by which instruction may be given.
190. What is unconscious tuition?
191. Why should examples worthy to be imitated be chosen rather than those worthy to be avoided?
192. How may advanced students be instructed?
193. What is the most difficult part of this work?
194. Upon what does disposition depend?
195. What is desire? What is good?
196. What is a motive?
197. What are high and what low motives?
198. What rule for the selection of motives?
199. The first class of motives.
200. The second, third, and fourth classes.
201. The lowest motive to which the teacher can appeal.
202. The highest motive to which appeal can be made.
203. What should be the final result of moral development, instruction and training?
204. What is character?
205. Explain why the study of children is of importance to teachers.

206. Explain what is meant by *general* and what by *special* child nature.

207. Why is the study of young children easier than the study of older children?

208. Explain why assimilation takes place in schools.

209. Why must both the body and mind be studied?

210. How can the contents of children's minds when first entering school be best learned?

211. Explain why the study of the environment and previous training of children is important.

212. Explain heredity and its probable influence.

213. Explain methods of examining and testing hearing and sight.

214. Explain temperaments, dispositions, moods.

215. Why study the interests and tastes of children?

216. Name points to be considered in writing descriptions of children.

217. Explain the advantages to the teacher of writing such descriptions.

218. Explain why teachers and parents should work together in the study of children.

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